BY ORDER OF THE SECRETARY OF THE AIR FORCE

AIR FORCE INSTRUCTION 21-200

13 NOVEMBER 2009

Incorporating Through Change 2, 4 January 2012

Maintenance

MUNITIONS AND MISSILE MAINTENANCE MANAGEMENT

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RELEASABILITY: There are no releasability restrictions on this publication.

OPR: AF/A4LW

Certified by: AF/A4L (Maj Gen McMahon)

Supersedes: AFI 21-200, 10 March 2007

Pages: 145

This publication implements Air Force Policy Directive (AFPD) *21-2, Munitions* and is consistent with AFPD 13-5, *Air Force Nuclear Enterprise Policy Directive*. It provides the strategic structure for Air Force munitions units and provides the policy framework for uniform and effective management of nuclear, conventional and missile organizations. This publication outlines organizational structure based upon mission focus and outlines common responsibilities across the munitions and missile maintenance community. Where specific requirements exist relative to a specific functional specialty, the requirement is delineated in the applicable Air Force Instruction (AFI) 21-2XX series publication and/or 21-101. This publication applies to all major commands (MAJCOMs) and their subordinate units. This publication applies to both the ANG and AFRC. The Air National Guard (ANG) is a MAJCOM for the purpose of this instruction. Organizational structures may differ in the Air Reserve Component (ARC). In these instances, responsibilities will be assigned to the appropriate functional area. Units will not publish a supplement to this publication. Units will contact the applicable MAJCOM for interpretations of the guidance contained in this publication. Waiver authority is AF/A4L. MAJCOM direct supplements to this publication must be routed to the OPR of this publication for coordination prior to certification and approval. Ensure that all records created as a result of the processes prescribed in this publication are maintained in accordance with AFMAN 33-363, Management of Records, and disposed of in accordance with Air Force Records Disposition Schedule (RDS) Records of Disposition Schedule (RDS) located at **https://www.my.af.mil/afrims/afrims/afrims/rims**. Refer recommended changes and questions about this publication to the Office of Primary Responsibility (OPR) using the AF Form847, *Recommendation for Change of Publication*; route AF Form 847s from the field through the appropriate functional's chain of command.

SUMMARY OF CHANGES

This document includes significant changes that require complete review. This interim change updates MAJCOM responsibilities implemented by Program Action Directive (PAD) 08-04, *Implementation of the Secretary and Chief of Staff of the Air Force Direction to Establish Air Force Global Strike Command*, and changes AF munitions maintenance policies impacted by HQ USAF PAD 11-02, *Implementation of the Secretary of the United States Air Force and Air Force Chief of Staff Direction to Transfer Operational Nuclear Munitions Squadrons (MUNS) from Air Force Materiel Command to Air Force Global Strike Command*. Additionally, this IC corrects several paragraphs with conflicting guidance, clarifies/updates Quality Assurance program requirements, and continues to standardize and align munitions maintenance management policies with other AF maintenance instructions. A margin bar (|) indicates newly revised material. Units have 60 days from the date of this change to fully implement revised procedures.

Chapter 1

GENERAL

1.1. Introduction. This instruction contains general information to support Air Force munitions and provides broad responsibilities for munitions and missile organizations. This AFI is the capstone document that defines munitions organizational structure and related roles and responsibilities and is supported by a family of 21-2XX series instructions, which are listed in **Attachment 1**.

1.1.1. When requirements of a specific item in a technical manual conflict with this instruction, the specific technical manual takes precedence. Units will notify the MAJCOM staff of conflicts.

1.1.2. Unit level requests for deviations or waivers from the requirements of this instruction will be sent to the MAJCOM staff for approval consideration, prior to submission to Air Staff. Unit requests for deviations or waivers must contain justification and expected date of compliance. Maintenance group commanders or equivalent will sign and submit all deviation or waiver requests.

1.2. Defining Air Force Munitions. Munitions are complete devices charged with explosives, propellants, pyrotechnics, initiating composition; nuclear fission or fusion materials for use as a military weapon in military operations, including demolitions. This includes bombs and warheads; guided and ballistic missiles; artillery, mortar, rockets, and ammunition; all mines, torpedoes, and depth charges; demolition charges; pyrotechnics; smoke; flares; clusters and dispensers; cartridge and propellant actuated devices; electro-explosive devices; clandestine and improvised explosive devices. When suitably modified, munitions can include items for training, ceremonial, or non-operational purposes. Throughout this AFI, the term "munitions" refers to this definition.

1.2.1. Functional definitions: For purposes of this guidance, “nuclear” refers to operations usually performed by 2W2s, associated with performing maintenance directly on nuclear weapons systems and associated support equipment. “Conventional” refers to munitions buildup and loading operations, generally performed by 2W0s and 2W1s within the confines of the munitions storage area and on the flight line. “Space Launch (SL)” refers to munitions maintenance activities that take place within space launch organizations on space launch facilities. “ICBM” and “Cruise Missile” refers to operations, usually performed by 2M0s, associated with performing maintenance directly on those weapon systems and their associated support equipment.

Chapter 2

MUNITIONS ORGANIZATION

2.1. Headquarters Air Force

2.1.1. Air Force Deputy Chief of Staff for Logistics, Installations & Mission Support, Directorate of Logistics, Nuclear Weapons, Munitions and Missile Maintenance Division (AF/A4LW). AF/A4LW is responsible for logistics plans and policies and is the Air Force lead for conventional and nuclear munitions, armament maintenance, Intercontinental Ballistic Missile (ICBM), air-launched missile, and space launch maintenance, and munitions information systems.

2.1.1.1. AF/A4LW Air Force Career Field Managers (AFCFM) develop munitions, nuclear, missile maintenance, and armament systems policy. They perform duties related to force development including the accession, education and training, retention, and optimum utilization of the active duty, Air Force Reserve, Air National Guard, and civilian workforce. The AFCFMs work with members of the Office of the Secretary of Defense, AF Secretariat, Air Staff, and MAJCOMs to develop and present Air Force positions on munitions, nuclear, missile, and armament maintenance training, and personnel management issues. The AFCFMs conduct Utilization and Training Workshops (U&TW), develop Career Field Education and Training Plans (CFETP), and ensure formal courses are developed to meet field requirements.

2.1.1.2. AF/A4LW personnel execute Functional Area Manager (FAM) duties and responsibilities outlined in AFI 10-401, *Air Force Operations Planning and Execution.* A4LW FAMs develop sourcing, sequencing, prioritization, and posturing guidance for the 2W, 2M, and 21M communities; develop, manage, maintain, and identify resources to fill 3-series (aviation), HH-, HG- and 1-series (space & missile) Unit Type Codes (UTC). This will ensure viability of Air Force capabilities as defined within mission capability (MISCAP) statements in associated UTCs.

2.1.2. The Deputy Assistant Secretary, Acquisition Integration, Program Integration Division (SAF/ AQXR) manages investment budget programs for BP12 appropriation 3010, Aircraft Procurement, Air Force (APAF), BP22 Appropriation 3020, Missile Procurement, Air Force (MPAF), and BP35 appropriation 3011, Procurement of Ammunition, Air Force (PAAF). These appropriations are used to procure ammunition related ground equipment and ammunition. Numerous replacement munitions equipment items previously procured with BP12 are now purchased with appropriation 3400 funding under the Centralized Asset Management (CAM) program managed by AFMC.

2.1.3. Assistant Chief of Staff, Strategic Deterrence and Nuclear Integration (AF/A10). AF/A10 is responsible for sustaining focus on nuclear operations, policy, plans, requirements, strategy guidance, integration and synchronization of the USAF nuclear enterprise.

2.1.4. Air Force Directorate of Operational Capability Requirements, Weapons Division (AF/A5RC). AF/A5RC is responsible for leading the requirements process as outlined in Department of Defense Instruction (DoDI) 3000.4, *DoD Munitions Requirements Process* (DoD MRP), and AFI 10-601, *Capabilities Based Requirements Development* for all

conventional and advanced technology weapons and establishing inventory objectives. The division advocates operational requirements for weapons programs at all development and acquisition stages. AF/A5RC performs Program Element Monitor (PEM) functions for all pre-Milestone A conventional weapon programs and designated post-Milestone C programs.

2.2. Field Operating Agencies (FOAs)

2.2.1. Air Force Safety Center (AFSC). Acting for the Chief of Safety (AF/SE), the Air Force Safety Center establishes and executes mishap prevention programs for all nuclear and conventional weapons systems, and oversees all Air Force munitions mishap reporting IAW AFMAN 91-221, *Weapon Safety Investigations and Reports*. The AFSC monitors the development of test, handling and support equipment and procedures used for nuclear certified equipment, oversees Weapons Safety Investigations and Reports, ensures safety and surety of the Air Force nuclear stockpile through the Nuclear Weapons System Safety Group, and issues nuclear safety policy for the logistics movement of nuclear cargo. They also provide facility design certification, explosives safety standards development and siting reviews, weapons safety consultation, and system inspection, oversight, education, and explosives hazard classifications.

2.2.2. Air Force Inspection Agency: Oversees the Air Force Nuclear Surety Inspection program IAW AFI 90-201, *Inspector General Activities*.

2.3. Major Commands (MAJCOMs)

2.3.1. Air Force Global Strike Command (AFGSC) develops maintenance management guidance and procedures that allow nuclear bomber, ICBM, and cruise missile systems and developmental test units to achieve the highest levels of surety, readiness and maintenance productivity. AFGSC functions as the Lead Command for bomber (B-2, B-52), ICBM, cruise missile, and gravity nuclear weapon systems.

2.3.2. Air Combat Command (ACC) functions as Lead Command for the Combat Air Forces (CAF), developing maintenance management guidance and procedures for assigned bomber and fighter wings to achieve the highest levels of safety, security, readiness, and maintenance productivity.

2.3.2.1. Bomb Wings perform activities in support of Combatant Commander (CCDR) commitments or assigned missions such as deactivation, conversion and the force development evaluation program. Follow maintenance management guidance and procedures to achieve the most efficient use of manpower and fiscal resources, safety, surety, readiness, and maintenance productivity.

2.3.2.2. Fighter Wings prepare for and execute expeditionary operations in support of CCDR commitments or other assigned missions. Follow maintenance management guidance and procedures to achieve the most efficient use of manpower and fiscal resources, safety, readiness, and maintenance productivity.

2.3.3. Air Force Materiel Command (AFMC) functions as the Lead Command for system acquisition, sustainment, and integration.

2.3.4. Air Force Space Command (AFSPC) develops maintenance management guidance and procedure that allow space launch and developmental test units to achieve the highest levels of safety, security, readiness and maintenance productivity.

2.3.4.1. DELETED.

2.3.4.2. Space Wings w/ Space Missions follow maintenance management guidance and procedures to achieve the most efficient use of manpower and fiscal resources, safety, readiness, and maintenance productivity.

2.3.5. Air Force Special Operations Command (AFSOC) functions as Lead Command for Special Operations Forces (SOF) munitions and associated equipment for which they have lead-command responsibility. AFSOC employs reachback support from ACC, AFMC, GACP, and AETC.

2.3.6. United States Air Forces in Europe (USAFE), as a Supported/Component MAJCOM, manages command munitions stocks and develops plans to receive and support augmenting forces. USAFE provides requirements for planned enroute and bed down locations to facilitate reception and support planning. USAFE employs reachback support from ACC, AFMC, AMC and the GACP. USAFE executes maintenance management guidance and policies for Dual Capable Aircraft supporting North Atlantic Treaty Organization (NATO) operations in coordination with United States European Command (USEUCOM).

2.3.7. Pacific Air Forces (PACAF) as a Supported/Component MAJCOM manages command munitions stocks and develops plans to receive and support augmenting forces. PACAF provides requirements for planned enroute and beddown locations to facilitate reception and support planning. PACAF employs reachback support from ACC and the GACP. Additionally, PACAF acts as liaison between 36 MUNS and AFGSC/A4W, facilitating cruise missile roles and responsibilities as outlined in MOAs.

2.3.8. Air Mobility Command (AMC) functions as Lead Command for the Mobility Air Forces (MAF). AMC develops guidance and procedures allowing MAF units to achieve the highest levels of safety, security, readiness, mobility, and maintenance productivity. AMC employs reachback support from ACC and the GACP.

2.3.9. Air Education and Training Command (AETC) conducts initial, upgrade and specialized munitions/weapons training to support specialties, MAJCOM and FMS missions. AETC receives reachback support from ACC and the GACP.

2.3.10. Air National Guard (ANG). For munitions management, ANG is a Lead Command for organize, train, and equip functions of ANG units that support CAF and/or MAF missions. ANG coordinates closely with ACC, AFGSC, AFMC and AMC Lead Commands and receives reachback support from ACC, AFGSC, AMC, AFMC, and the GACP.

2.3.11. Air Force Reserve Command (AFRC). For munitions management, AFRC is a Lead Command for organize, train, and equip functions of AFRC units that support CAF and/or MAF missions. AFRC coordinates closely with ACC, AFGSC, AFMC and AMC Lead Commands and receives reachback support from ACC, AFGSC, AMC, AFMC, and the GACP.

2.4. Air Logistics Centers (ALC) and Product Centers. The respective ALC provides support for logistics, engineering and research, development, test and evaluation, technical sustainment, product assurance, and life-cycle sustainment to support all MAJCOMs. The respective ALC maintains, equips, and staffs these functions to ensure program level support for

munitions and associated equipment. Product Centers are highly specialized development organizations, postured to design, acquire, and field new air and space capabilities.

2.4.1. 784th Combat Sustainment Group (784th CBSG), Ogden Air Logistics Center (OO-ALC) executes the Air Force Global Ammunition Control Point (GACP) mission and provides timely, efficient and cost effective logistics, stockpile management, supply-chain, inventory, transportation/distribution, safety and demilitarization services to the Air Force and Foreign Military Sales (FMS) customers. The 784th CBSG also executes the Tactical Missile Control Point (TMCP) mission and provides life-cycle sustainment support for tactical missile logistics, supply-chain, distribution, engineering and research, development, test and evaluation, technical data, and product assurance to support all MAJCOMs and FMS customers.

2.4.2. 309th Missile Maintenance Group (309th MMXG), Ogden Air Logistics Center (OO-ALC) executes depot-level maintenance and provides life-cycle sustainment support for ICBM weapon systems including aerospace vehicle equipment, operational ground equipment, support equipment and special purpose vehicles.

2.5. Air Force Nuclear Weapons Center (AFNWC). AFNWC provides technical direction, engineering analysis, system integration, logistics sustainment and acquisition support to ensure safe, secure, and reliable nuclear weapons/systems for AF warfighters. AFNWC acts as the office of primary responsibility for AF nuclear support procedures, and provides day-to-day logistics support for re-entry systems, gravity weapons, warheads, cruise missiles, and the Weapons Storage and Security System (WS3). AFNWC serves as the primary point of contact on all matters pertaining to nuclear ordnance materiel management, weapons development, weapons maintenance, stockpile planning and management. AFNWC contains the ICBM Program Office, Cruise Missile Program Office, WS3 Program Office, Nuclear Weapons Logistics Division (formerly 708 Nuclear Sustainment Squadron), and the Nuclear Weapons Division.

2.5.1. DELETED.

2.5.2. DELETED.

2.5.3. DELETED.

2.5.4. DELETED.

2.5.5. DELETED.

2.6. Headquarters 754th Electronic Systems Group (HQ 754 ELSG). The 754th ELSG provides technical and customer service support as well as acquisition and program management oversight of Combat Support Information Technology (IT) systems.

2.7. Munitions Squadrons (MUNS) and Munitions Flights. Munitions organizations are aligned IAW AFI 38-101, *Air Force Organization*, and amplifying guidance in **Figure 2.1** and **Figure 2.2** and **Table 2.1** and **Table 2.2**. Munitions units are responsible for command and control; administration and management of training, resources, and programs; and the control, accountability, storage, receipt, shipment, inspection, maintenance, assembly, flightline delivery, armament systems (if applicable), and limited disposition of munitions and associated components. Munitions units manage utilization of munitions and maintenance information

technology (IT) systems. Squadron and flight personnel manage and maintain all assigned tools, test, and munitions handling equipment.

2.7.1. Munitions Squadron (MUNS) Organizational Structure. The MUNS is directly responsible to the MXG/CC (or equivalent) and is organized in accordance with **Figure 2.1**. The Unit Manning Document (UMD) will be aligned according to the USAF approved template **Table 2.1**. Depending on mission, MUNS may consist of Production, Materiel, Systems, Armament, Conventional Air Launched Cruise Missile (CALCM), and Special Weapons flights. The Combat Munitions Training (CMT) section is typically aligned under the Production Flight; however, CMT may be combined with squadron training under the Systems Flight. ***NOTE:*** ACC and PACAF units are not required to meet CMT Program requirements for the following munitions systems that may appear on the Unit Committed Munitions List as primary or support munitions: ALCM, CALCM, ACM and B61 and B83 bombs. These systems are not maintained by 2W0X1 personnel, not readily deployable and not generally prepared for use in a mass production environment.

2.7.1.1. The MUNS may include 2W0X1, Munitions Systems, 2W1X1, Armament Systems, 2W2X1, Nuclear Weapons Systems, 2M0X1, Missile and Space Systems Electronics, Visual Imagery and Intrusion Detection, 2E1X4, and authorized Commander Support Staff (personnel, workgroup managers, training management, etc.). Munitions Squadrons designated as Geographically Separated Units (GSU) may be authorized other specialties such as Aerospace Ground Equipment (AGE) and Vehicle Maintenance IAW applicable manpower standards.

2.7.1.2. Typically, a MUNS is established when the unit mission involves critical, diverse, and multi-functional capabilities or when essential capabilities demand coordinated and simultaneous activity of multiple 2W and/or 2M or other specialty skills on a scale broader than what a Munitions Flight can provide.

2.7.2. Munitions Functions/Activities. Munitions squadrons and flights may request approval from the MAJCOM munitions and missile maintenance division to physically or functionally consolidate activities to maximize operational efficiency. However, Unit Manning Documents (UMD) will not be changed to reflect local consolidation. When consolidating, the organizational structure outlined in **Figure 2.1** and **Figure 2.2** will remain the approved structure and the UMD will reflect this. Consolidation will be limited to section/element level only and flight level consolidation is not authorized. For Air Reserve Component units, gaining command approval is also required. Approved consolidations will be forwarded to AF/A4LW. All munitions organizations at local discretion may establish consolidated tool room, resource, supply, training, and support functions, as they deem necessary. Resources are earned to support wartime/training or other mission requirements; therefore, no additional resources are earned or lost due to local consolidation. See **paragraph 2.7.3** for small and unique munitions organizational structure.

2.7.2.1. Production Flight (or Section if embedded within a Flight). The Production Flight/Section assembles, disassembles, delivers, and maintains conventional munitions, missiles, containers, dispensers, assigned Munitions Material Handling Equipment (MMHE), and training items. In a MUNS, the Production Flight Training Section conducts and administers the Combat Munitions Training (CMT) program; however, it may be aligned with Systems Flight, Training Section at local option.

2.7.2.2. Materiel Flight or Section. This flight/section stores, handles, inspects, ships, receives, disposes locally, and accounts for, conventional munitions, containers, dispensers, and training items and coordinates transportation.

2.7.2.3. Systems Flight or Section. The Systems Flight/Section provides broad command and control, direction, and support for all munitions activities to include training, resources, munitions information systems, facilities, and mobility programs. The flight plans, schedules, coordinates, controls, and directs all munitions activities. For nuclear capable units specific training requirements are described in AFI 21-204, *Nuclear Weapons Maintenance Procedures.*

2.7.2.4. Armament Systems Flight (MUNS) (if assigned). Performs off-equipment maintenance of weapons release systems, guns, munitions racks, adapters, pylons, and launchers. Specific responsibilities are described in AFI 21-101, *Aircraft and Equipment Maintenance Management,* and appropriate MAJCOM supplemental guidance. The Wing Weapons Manager is the wing's focal point for all weapons loading and armament systems related matters.

2.7.2.5. Conventional Air-Launched Cruise Missile (CALCM) Flight (MUNS). The CALCM Flight performs on-equipment and off-equipment maintenance on assigned CALCM and associated equipment. The flight consists of Missile Maintenance, Launcher Operations, and Support sections. Specific responsibilities are described in AFI 21-202, *Missile Maintenance Management* and appropriate MAJCOM supplemental guidance.

2.7.2.6. Special Weapons Flight (MUNS)/Strategic/Nuclear Weapons Maintenance Section (Flight). Performs on-equipment and off-equipment maintenance on assigned nuclear weapons, missiles, reentry systems, reentry vehicles, and associated equipment. This flight/section consists of the following sections as applicable: Weapons Maintenance, Missile Maintenance, ICBM Reentry Vehicle/System Maintenance, Analysis, Verification and Checkout (VACE), and Launcher Loader Adapter/ Pylon Loader Adapter (LLA/PLA). Specific responsibilities are described in AFI 21-202, *Missile Maintenance Management,* AFI 21-203, *Nuclear Accountability Procedures*, and AFI 21-204, *Nuclear Weapons Maintenance Procedures* and appropriate MAJCOM supplement guidance.

Figure 2.1. Munitions Squadron (MUNS) Organizational Structure.

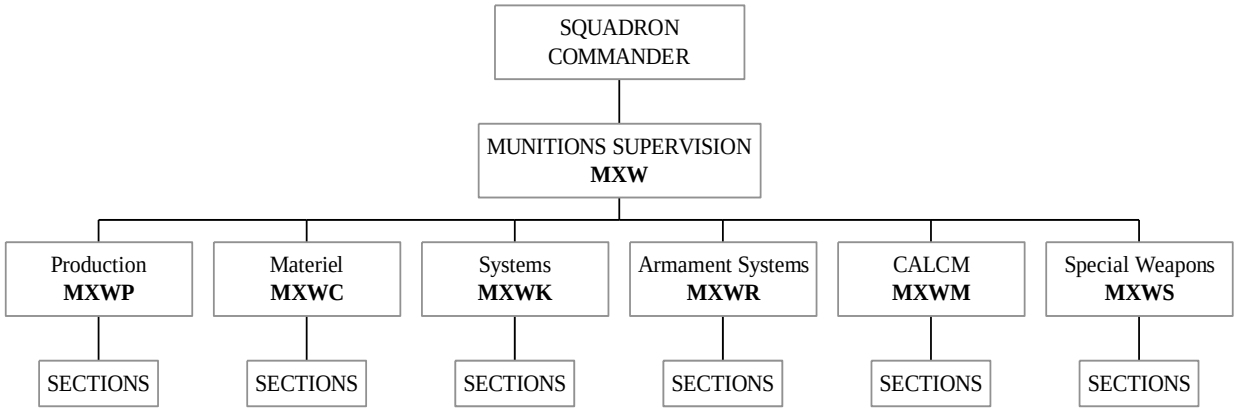


Table 2.1. Munitions Squadron (MUNS) Organizational Structure Template.

OSC	TITLE	LEVEL
CC	**COMMANDER**	**SQDN**
MXW	**MUNITIONS OPERATIONS**	**SQDN**
MXWC	**MUNITIONS MATERIEL**	**FLIGHT**
MXWCA	MUNITIONS ACCOUNTABILITY	SECTION
MXWCB	MUNITIONS INSPECTION	SECTION
MXWCC	MUNITIONS STORAGE/HANDLING	SECTION
MXWP	**MUNITIONS PRODUCTION**	**FLIGHT**
MXWPA	CONVENTIONAL MAINTENANCE	SECTION
MXWPB	LINE DELIVERY	SECTION
MXWPC	PRECISION GUIDED MUNITIONS	SECTION
MXWPD	MUNITIONS SUPPORT EQUIPMENT	SECTION
MXWPT	COMBAT MUNITIONS TRAINING	SECTION
MXWK	**MUNITIONS SYSTEMS**	**FLIGHT**
MXWKA	MUNITIONS CONTROL*	SECTION
MXWKB	MOBILITY/PLANS	SECTION
MXWKC	PLANS & SCHEDULING*	SECTION
MXWKD	TRAINING	SECTION
MXWM	**CALCM**	**FLIGHT**
MXWMM	MISSILE MAINTENANCE	SECTION
MXWMSS	SUPPORT	ELEMENT
MXWMSA	ANALYSIS	ELEMENT
MXWMSM	LLA/PLA MAINTENANCE	ELEMENT
MXWMST	TRAINING	ELEMENT
MXWMSV	VERIFICATION AND CHECKOUT EQUIP (VACE)	ELEMENT
MXWR	**ARMAMENT SYSTEMS**	**FLIGHT**
MXWRM	MAINTENANCE	SECTION
MXWRS	SUPPORT	SECTION
MXWS	**SPECIAL WEAPONS**	**FLIGHT**
MXWSA	ANALYSIS	SECTION
MXWSK	NARS	SECTION
MXWSM	MISSILE MAINTENANCE	SECTION

OSC	TITLE	LEVEL
MXWSR	RV/RS MAINTENANCE	SECTION
MXWSW	WEAPONS MAINTENANCE	SECTION
MXWSS	WEAPONS SUPPORT	SECTION
MXWSL	LLA/PLA MAINTENANCE	SECTION
MXWSST	TRAINING	ELEMENT
MXWSV	VERIFICATION AND CHECKOUT EQUI (VACE)	SECTION

(*small units may combine Munitions Control and Plans & Scheduling to increase flexibility)

Figure 2.2. Munitions Flight Organizational Structure.

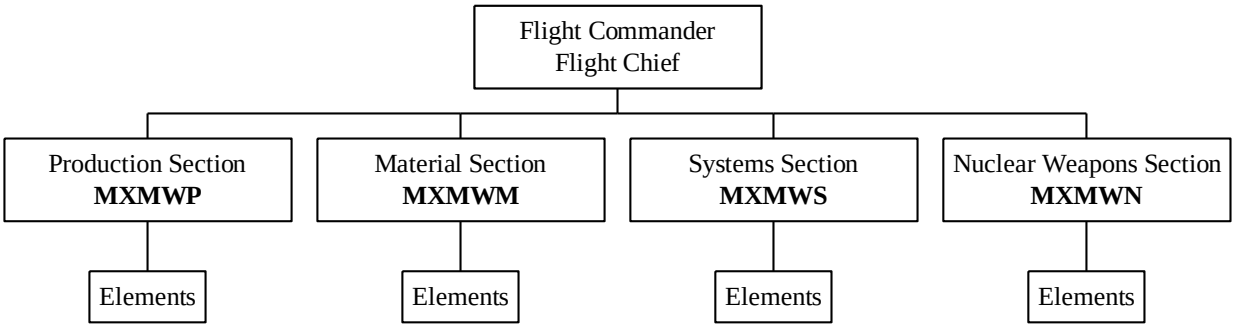


Table 2.2. Munitions Flight Organizational Template.

OSC	TITLE	LEVEL
MXMW	**MUNITIONS FLIGHT**	**FLIGHT**
MXMWP	**MUNITIONS PRODUCTION**	**SECTION**
MXMWPA	CONVENTIONAL MAINTENANCE	ELEMENT
MXMWPB	LINE DELIVERY	ELEMENT
MXMWPC	PRECISION GUIDED MUNITIONS	ELEMENT
MXMWPD	MUNITIONS SUPPORT EQUIPMENT	ELEMENT
MXMWM	**MUNITIONS MATERIEL**	**SECTION**
MXMWMA	MUNITIONS ACCOUNTABILITY	ELEMENT
MXMWMB	MUNITIONS INSPECTION	ELEMENT
MXMWMC	MUNITIONS STORAGE/HANDLING	ELEMENT
MXMWS	**MUNITIONS SYSTEMS**	**SECTION**
MXMWSA	MUNITIONS CONTROL	ELEMENT
MXMWSB	COMBAT PLANS/TRAINING/MOBILITY	ELEMENT
MXMWSC	PLANS & SCHEDULING	ELEMENT

OSC	TITLE	LEVEL
MXMWN	**STRATEGIC/NUCLEAR WEAPONS**	**SECTION**
MXMWNV	VAULT MAINTENANCE	ELEMENT
MXMWNW	WEAPONS MAINTENANCE	ELEMENT

2.7.3. Small and Unique Munitions Organizational Structure. Some munitions activities cannot meet typical organizational structure due to limited manpower, unique mission or operational requirements. Munitions activities meeting all of the following criteria are authorized to follow the small and unique organizational structure outlined in **Figure 2.3**.

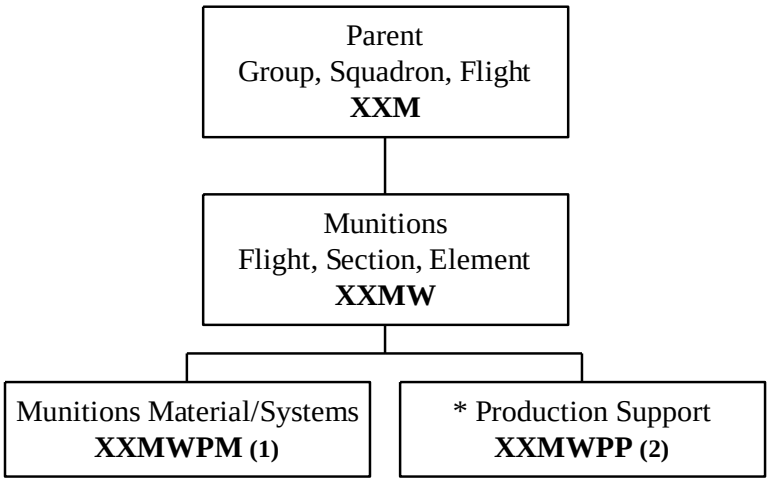
2.7.3.1. Criteria for unique unit organizational structure:

2.7.3.1.1. Have less than 60 authorized personnel.

2.7.3.1.2. Aligned directly under a parent group or squadron (FWS, OSS, EMS, MXS, etc.) as a munitions flight, section, or element. Munitions organization structure codes will be recommended by AF/A4LW and approved by AF/A1MO.

2.7.3.1.3. Provide sole support for munitions activities on an installation or for the parent MAJCOM.

Figure 2.3. Small and Unique Munitions Organizational Structure.



Optional Small and Unique Unit Criteria:
1. Material, Systems, and Production functions may be partially or fully integrated.
2. Production is not required; aircraft support and maintenance workload demands determine need.

2.7.4. Air Reserve Component units. ARC units are organized differently from other USAF units primarily due to their austere manning posture. The ARC Munitions Flight or Element day-to-day peacetime organizational structure is designed to sustain minimal core munitions activities.

2.7.4.1. When not mobilized or federalized, ARC Munitions Flights or Elements are staffed with Active Guard Reserve (AGR) personnel, Guard and Air Reserve technicians and civilian personnel consistent with their peacetime mission requirements and workload

2.7.4.2. Ensure munitions personnel are aware and trained on wartime duties and responsibilities and gained command policies and procedures to ensure a smooth transition when ARC personnel are mobilized or federalized.

2.8. Missile Maintenance Squadron (MMXS). The mission of the Missile Maintenance Squadron is to maintain the immediate launch readiness of ICBMs and corresponding missile alert facilities (MAF) and launch facilities (LF) through the replacement of munitions, missiles, reentry systems, guidance sets, troubleshooting/repairing security and electrical systems, coding, corrosion control, and periodic inspections. **Figure 2.4** and **Table 2.3** depicts the MMXS organizational structure.

2.8.1. Generation Flight. Generates and maintains assigned ICBM forces. Performs electronic, electro-mechanical, security, weapon system communications, electrical system troubleshooting and repair, and coding of the ICBM weapon system. Removes, installs, and transports Minuteman aerospace vehicle equipment, reentry systems and missiles.

2.8.2. Facilities Flight. Performs on-site repair of ICBM LF and MAF power and environmental control systems and missile communication systems. Performs periodic maintenance inspections, corrosion control and preventive maintenance actions. Maintains the Hardened Intersite Cable System.

2.8.3. Rivet Minuteman Integrated Life Extension (Rivet MILE) geographically separated units (GSU)--depot workcenters stationed at each ICBM wing are administratively controlled (ADCON) by the 309th Missile Maintenance Group at Hill AFB, UT, and operationally controlled (OPCON) for day-to-day maintenance activity by the local MXG/MMXS. ADCON includes direct supervision/chain of command; technical training documentation, work control documentation, PDM/Program planning and quality assurance. OPCON includes missile site dispatch authority; administration of security, ancillary training & support, required non-depot level technical training and Personnel Reliability Program (PRP), maintenance plans/scheduling, IMDS work package completion support and depot 107 assistance request execution. As depot field operating units, Rivet MILE operations will be governed by AFIs 21-200, 21-202 and the AFGSC/AFMC Memorandum of Agreement.

Figure 2.4. Missile Maintenance Squadron Organizational Structure.

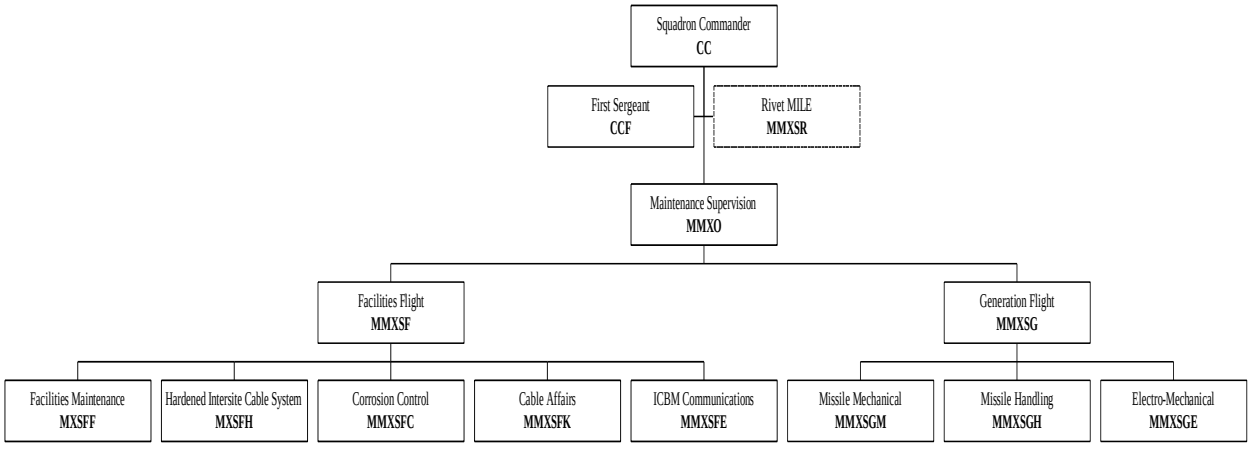


Table 2.3. Missile Maintenance Squadron.

OSC	TITLE	LEVEL
MMXSG	**Generation**	**Flight**
MMXSGE	Electro-Mechanical	Section
MMXSGM	Missile Mechanical	Section
MMXSGH	Missile Handling	Section
MMXSF	**Facilities**	**Flight**
MMXSFF	Facilities Maintenance	Section
MMXSFE	Missile Communications	Section
MMXSFH	Hardened Intersite Cable Systems	Section
MMXSFC	Corrosion Control	Section
MMXSFK	Cable Affairs	Section
MMXSR	**Rivet MILE**	**GSU**

2.9. Maintenance Operations Squadron (MOS) Functions at Missile Wings. The mission of the MOS is to plan, coordinate and monitor the maintenance production effort on assigned LF, MAF, and assigned mission support equipment. Administer initial and recurring training, to include ancillary and on-the-job (OJT) programs. Provide off-equipment maintenance and limited on-equipment repair. Provide centralized manpower, financial and support equipment management for the missile maintenance complex. **Figure 2.5** and **Table 2.4** depicts the MOS organizational structure.

2.9.1. Maintenance Operations Flight (MXOO). Maintains status of all LFs and MAFs, and provides leadership with key information to assist in determining maintenance requirements and priorities. Functions as the centralized manager for manpower, mission support equipment facilities, and long range planning. Provides expertise to solve unique weapon system problems that are beyond the normal scope of technical data. The Technical Engineering section is operationally controlled by the MXOO, but is administratively owned and governed by Air Force Materiel Command via the Air Force Nuclear Weapons Center.

2.9.2. Maintenance Training Flight (MXOT). Manages ICBM maintenance training for all maintenance personnel assigned to the MXG. Provides ancillary training to maintenance technicians.

2.9.3. Resources Flight (MXOP). Performs off-equipment maintenance on electrical, environmental, power generation, pneumatic and hydraulic systems associated with the ICBM weapon system. Centrally stores, issues, inspects and repairs ICBM support equipment, guidance systems, and special purpose vehicles.

Figure 2.5. Maintenance Operations Squadron Structure for Missile Units.

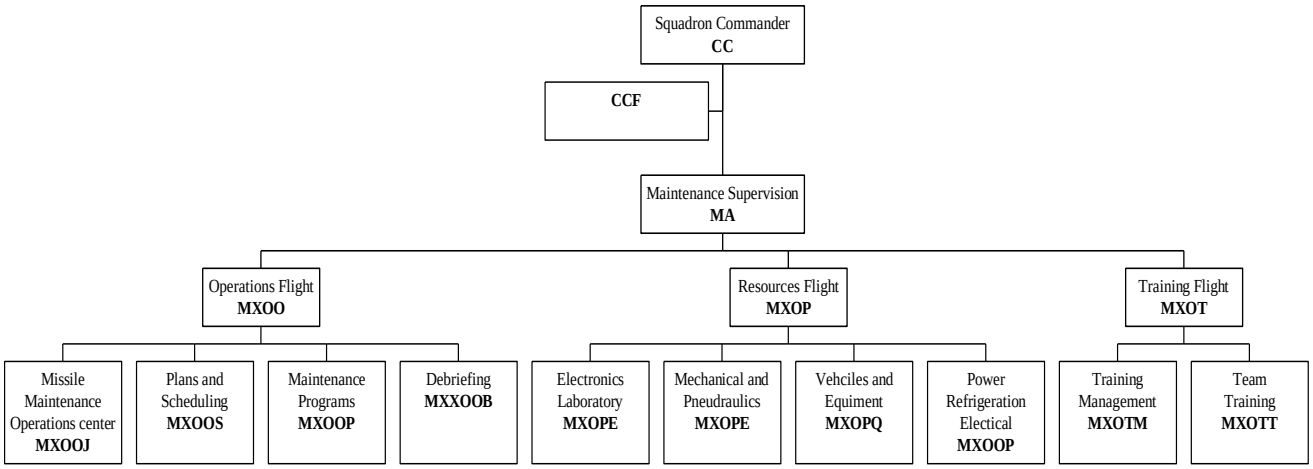


Table 2.4. Missile Maintenance Operations Squadron.

OSC	TITLE	LEVEL
MXOO	**Maintenance Operations Flight**	**Flight**
MXOOJ	Missile Maintenance Operations Center	Section
MXOOS	Plans and Scheduling	Section
MXOOP	Maintenance Programs	Section
MXOOB	Debriefing	Section
MXOOT	Technical Engineering	Section
MXOT	**Training Flight**	**Flight**
MXOTM	Training Management	Section
MXOTT	Team Training	Section
MXOP	**Resources Flight**	**Flight**
MXOPE	Electronics Laboratory	Section
MXOPM	Mechanical and Pneudraulics (MAPS)	Section
MXOPP	Power, Refrigeration, and Electrical	Section
MXOPQ	Vehicles and Equipment	Section

2.10. Munitions Support Squadron (MUNSS). Munitions Support Squadrons are geographically separated units responsible for receipt, storage, maintenance and control of United States (US) War Reserve Munitions (WRM) in support of the North Atlantic Treaty Organization (NATO) and its strike mission. A MUNSS is divided into five flights and a commander's support staff. The five flights consist of the mission support flight, communications flight, operations flight, weapons maintenance flight, and the custody flight. **Figure 2.6** depicts the MUNSS organizational structure.

2.10.1. Commander's Support Staff. The Commander's Support Staff is comprised of the Maintenance Operations Officer, First Sergeant, Superintendent, Weapons Safety, Quality Assurance, Personnel Reliability Program Monitor, Unit Training, School Liaison Officer, Unit Translator, Chaplain, and the Housing Referral Office. The Deputy Commander also performs the duties of Operations Officer, ensuring the proper execution of munitions maintenance functions.

2.10.2. Mission Support Flight. The Mission Support Flight is comprised of the Orderly Room, Finance, Medical Aid Station, Services, and the Community Support Center.

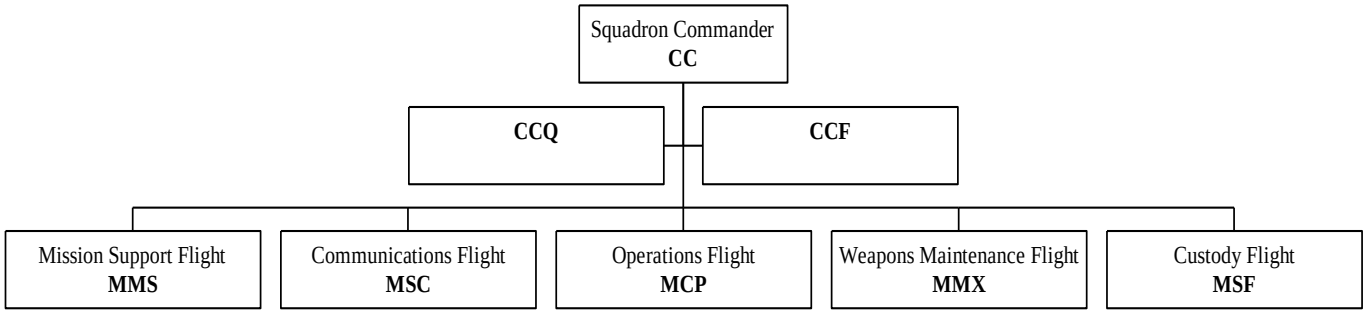
2.10.3. Communications Flight. The Communications Flight is comprised of the Network Control Center, Communications Security, Communications Maintenance, Post Office, Computer Help Desk, and Information Management Office.

2.10.4. Operations Flight. The Operations Flight operates the Command Post 24 hours a day, with an OIC, Superintendent and controllers.

2.10.5. Maintenance Flight. The Maintenance Flight is comprised of Munitions Operations, Weapons Maintenance, Weapons Load Monitors, and Unit Supply Sections.

2.10.6. Custody Flight. The Custody Flight maintains custody of US munitions and provides limited law enforcement support.

Figure 2.6. Munitions Support Squadron Organizational Structure.



2.11. The Department of Energy (DOE). DOE's responsibilities in supporting the AF include nuclear weapons development, testing, and production. The part of DOE that executes this responsibility is the National Nuclear Security Administration (NNSA), which is responsible to develop and field new nuclear weapons systems.

2.11.1. National Laboratories (NL). Three NLs serve as DOE's prime contractors. Their principal mission is the design of nuclear ordnance and the innovation and investigation of advanced weapons concepts. Sandia (SNL) works on the development and assembly requirements of nuclear weapons systems, stockpile surveillance, military training and many other programs. Los Alamos (LANL) and Lawrence Livermore (LLNL) are responsible for research and design of the nuclear physics packages. Laboratory resources are also employed in originating new weapons concepts, designing weapons, testing components, developing manufacturing techniques, and weapons life extension programs.

2.11.2. NNSA Service Center (Albuquerque) Office of Secure Transportation (OST). Transport special nuclear material within the US in specially constructed safe-secure trailers (SST) and safeguard transporters (SGT). These vehicles are operated by highly trained and

armed federal officers and contain special deterrent and denial features as well as safety features that provide a high resistance to fire and crash damage.

2.12. The Defense Threat Reduction Agency (DTRA). DTRA is a joint service agency that provides advice and assistance in nuclear weapons matters to the Secretary of Defense (SECDEF), the Joint Chiefs of Staff (JCS), and other DoD components. Specific responsibilities include the management of nuclear weapons effects, test and evaluation programs, nuclear weapons logistical aspects and stockpile technical inspections. DTRA also oversees Defense Nuclear Surety Inspections (DNSI).

2.13. DoD Explosives Safety Board (DDESB). The DDESB provides impartial and objective advice to the SECDEF, the Secretaries of the military departments and the Directors of the Defense Agencies on safety aspects of ammunition and explosives (including chemical agents) development, manufacturing, testing, handling, transportation, storage, maintenance, demilitarization and disposal.

2.14. Joint Nuclear Accident Coordinating Center (JNACC). The JNACC provides a central location for coordination in the event of a nuclear accident or incident involving radioactive materials. They maintain current information on personnel, government agencies, and their response capabilities. A DOE Accident Response Group (ARG) is on continual alert and can be dispatched to an accident site within hours of an accident.

2.15. Air Force Combat Ammunition Center (AFCOMAC) (9th MUNS). The primary mission of AFCOMAC is to train munitions technicians, supervisors, managers, and company grade officers in combat munitions planning and mass munitions production techniques. Their mission also includes munitions support to the 9th Reconnaissance Wing, developing and publishing combat munitions doctrine, and validating the durability of munitions material handling equipment (MMHE). A course is also offered to orient senior officers on combat munitions planning and production.

2.16. Advanced Maintenance and Munitions Officer School (AMMOS). The mission of the AMMOS at Nellis AFB, NV, is to expand combat capability by developing graduate-level expertise in aircraft and munitions maintenance using the AF Agile Combat Support master process construct. Graduates are qualified in all aspects of effects-based logistics through the phases of Agile Combat Support: Readying the Force, Preparing the Battlespace, Positioning the Force, Employing and Sustaining the Force, and Recovering the Force. Graduates understand principles of deliberate and crisis action planning, and can integrate expeditionary combat support to enable effective combat sortie generation.

Chapter 3

NUCLEAR WEAPONS, MUNITIONS AND MISSILE MAINTENANCE RESPONSIBILITIES

3.1. Headquarters Air Force

3.1.1. Headquarters US Air Force/A4LW will:

3.1.1.1. Develop, articulate and clarify AF munitions and missile maintenance and logistics policies.

3.1.1.2. Serve as:

3.1.1.2.1. Air Staff point of contact for matters relating to munitions and armament logistics.

3.1.1.2.2. In coordination with AF/A5RC, serve as focal point for transferring conventional munitions in the current stockpile to agencies outside the Air Force.

3.1.1.3. Schedule and chair:

3.1.1.3.1. World Wide Senior Munitions Manager's Conference (WWSMMC).

3.1.1.3.2. Annual AFCOMAC curriculum review.

3.1.1.4. Organize the semi-annual Air Force Maintenance Advisory Group (AFMAG) with the Air Force Directorate of Logistics, Division (AF/A4L).

3.1.1.5. Manage Force Development for 2M, 2W, 8S, and 21M Air Force Specialties (AFS). Developmental Teams (DT) provide course vectors and developmental assignments. Coordinate with MAJCOM functional managers to develop vectors for personnel management.

3.1.1.5.1. Co-chair Utilization and Training Workshops (U&TW) for 2M, 2W, 8S, and 21M career fields IAW AFI 36-2201, *Air Force Training Program.*

3.1.1.5.1.1. Manage/update a CFETP for each applicable AFSC.

3.1.1.6. Update, publish, and distribute Air Force Non-Expendable Training Munitions Standard.

3.2. Major Commands - General

3.2.1. All MAJCOM nuclear weapons, munitions, missile, and weapons maintenance functions will:

3.2.1.1. Review and validate operational requirements, concept of operations, and concept of employment.

3.2.1.2. Advocate for sustainment, modification and acquisition of weapon systems and support AFMC, as required, to ensure all requirements associated with weapon system sustainment, modification and acquisition receive equitable consideration in planning, programming, budgeting and execution of resources.

3.2.1.3. Provide acquisition/life cycle logistics, systems engineering, Research, Development, Test and Evaluation (RDT&E) support, and maintenance management (sustainment conferences, product improvement working groups, etc).

3.2.1.4. Participate in accident and safety investigation boards as required.

3.2.1.5. Ensure units enforce proper maintenance, supply, safety, and security procedures.

3.2.1.6. Help units resolve support problems beyond their capability.

3.2.1.7. Publish command guidance for nuclear weapons, missile and munitions maintenance organizations.

3.2.1.7.1. Ensure policies and procedures are standardized as much as possible to optimize efficiencies.

3.2.1.7.2. Ensure command guidance achieves maximum readiness of safe and reliable munitions, armament systems, and associated test, handling, and support equipment.

3.2.1.7.3. As a minimum, command guidance will cover resource protection, physical security, information security, industrial safety programs, maintenance, inspection, storage, inventory management, status reporting, accountability, and distribution of munitions allocated to the command.

3.2.1.8. Establish guidance to ensure effective unit occupational safety, health, and environmental compliance programs.

3.2.1.9. Review project programming documents. Actively participate in design reviews to accurately define, fully justify, and effectively satisfy weapon system and maintenance requirements.

3.2.1.10. Advocate complete weapon system lifecycle logistics to include acquisition, sustainment, modification, and disposal.

3.2.1.11. Ensure a viable supervision program is established that provides oversight at locations where maintenance is performed, stressing safety, security and technical data usage.

3.2.1.12. Perform periodic staff assistance visits to ensure units are adequately organized, staffed, and complying with applicable instructions. HQ AFRC may delegate this function to their assigned NAFs.

3.2.1.13. Establish procedures for review and approval of maintenance technical data waiver requests.

3.2.1.14. Establish guidance to ensure units implement a Quality Assurance (QA) program per **Chapter 8** to effectively assess the unit's ability to accomplish the mission.

3.2.1.15. Develop and standardize training management policies and procedures.

3.2.1.16. Assist MAJCOM Manpower and Personnel (A1) staff to determine manpower needs, composition, and responsibilities (subject to HAF/A4LW approval).

3.2.1.17. Evaluate Innovative Development Through Employee Awareness (IDEA) submissions pertaining to assigned weapon systems, space launch systems and support equipment, per AFI 38-401, *The Air Force Innovative Development Through Employee Awareness (IDEA) Program*.

3.2.1.18. Establish a weapon system modification and life extension program planning cycle and specify various plan contents to ensure proper and effective use of maintenance resources.

3.2.1.19. Validate and advocate personnel, facilities, equipment, technical data, and funding needs; develop munitions support plans and annexes to support the CCDR.

3.2.1.20. Provide MAJCOM Functional Management (MFM) for all 2M0, 2WX, 8S0, and 21M AFS personnel by ensuring all units are optimally manned and trained in accordance with Air Force manpower and training directives.

3.2.1.21. Provide functional management for the assignment, training, utilization, and force projection of assigned command personnel.

3.2.1.22. Attend the U&TW and provide inputs to the AFCFM and AETC Training Pipeline Managers in developing/updating the CFETP, Career Development Courses (CDC) and course training standards (CTS) for formal courses.

3.2.1.23. Develop and implement plans, policies and procedures governing management, control, supportability and employment of munitions in all peacetime, contingency and exercise scenarios within the command.

3.2.1.24. Request and allocate number of quotas for munitions training courses.

3.2.1.25. Establish an In-Process Inspection (IPI) program, when required IAW **Chapter 6**.

3.2.1.26. Develop procedures to ensure:

3.2.1.26.1. Live and inert munitions/missiles of the same type (i.e. live AIM-9 and captive AIM-9) are not commingled on an aircraft for any purpose.

3.2.1.26.2. Live munitions/missiles of one type and inert versions of others may be loaded on an aircraft only when considered essential to unit training operations.

3.2.1.26.3. Air training missiles mirror the parent tactical missile IAW item Technical Order (T.O.).

3.2.1.26.4. Munitions are not electrically tested unless specifically required by the T.O.

3.2.1.26.5. See AFI 21-101 for exceptions and additional guidance.

3.2.1.27. Manage armament, munitions, missiles, and space launch technical data IAW T.O. 00-5-1-WA-1, *Air Force Technical Order System.*

3.2.1.28. Coordinate Engineering Technical Assistance Requests (ETAR) and Maintenance Assist Requests from field units with depots IAW T.O 00-25-107-WA-1, *Maintenance Assistance* and TO 00-25-108-WA-1, *Communications-Electronics (C-E) Depot Support.*

3.2.1.29. Serve as voting members for the AFMAG, WWSMMC, and U&TW conferences and the TMRS Steering Group.

3.2.1.29.1. Provide functional representatives to working groups as required by the AFMAG and WWSMMC.

3.2.1.30. Supplement HAF inspection checklists with MAJCOM unique items for all armament, munitions, missiles, and/or space launch maintenance functions for use by field units, Logistics Compliance Assessment Teams, and Inspector General Teams.

3.2.1.31. Ensure requirements are identified for contracted munitions activities IAW AFI 21-101.

3.2.1.32. Develop and submit budget requirements for Second Destination Transportation (SDT) funds to support movement of:

3.2.1.32.1. Conventional munitions to HQ AFMC/A4MW as requested.

3.2.1.32.2. Nuclear weapons to the AFNWC as requested.

3.2.1.33. Coordinate unit requests for SRAN/DoD Activity Address Code (DoDAAC) additions, deletions, and changes.

3.2.1.34. Ensure mission essential equipment levels are published in applicable Allowance Standards (AS) and in-theater WRM munitions maintenance and handling equipment is managed IAW AFI 25-101, *War Reserve Materiel (WRM) Program Guidance and Procedures.*

3.2.1.35. Coordinate with the System Program Director (SPD) to determine depot and field level supportability requirements and develop maintenance concept for weapons systems and equipment.

3.2.1.36. Monitor unit level reports to higher headquarters, ALCs, AFNWC, DTRA, and DOE for accuracy.

3.2.1.37. Oversee munitions modification programs, system conversions, new deployments and any resultant redistribution of weapons.

3.2.1.38. Prepare and develop funding requests and Program Objective Memorandum (POM) submissions to replace equipment before the end of the established life cycle date, to include AS equipment shortages. For replacement equipment items managed under CAM, prioritize equipment items using the Equipment Requirement System (ERS) in the Air Force Equipment Management System (AFEMS).

3.2.1.39. Conduct the validation or verification of technical data and maintenance concepts for emerging weapons systems and support equipment.

3.2.1.40. Review Capability Production Documents (CPD) to ensure life-cycle sustainment and technical data accuracy are adequately addressed.

3.2.1.41. Munitions requirements for aircrew training can be found in AFI 11-212, *Munitions Requirements for Aircrew Training.*

3.2.1.42. Ensure that any new or modified configurations or maintenance conditions are coordinated with, and approved by, the Single Manager responsible for the operational

safety, suitability, and effectiveness (OSS&E) of the systems and end-items prior to implementation.

3.2.1.43. **(Nuclear)** Develop procedures to meet AFI 91-107, *Design, Evaluation, Troubleshooting and Maintenance Criteria for Nuclear Weapons Systems*, requirements to consult with the engineering MAJCOM when authorized procedures do not adequately address nuclear system faults that occur on a loaded nuclear weapon system.

3.2.1.44. Coordinate Technical Order (TO) requirements and changes in acquisition and modification programs.

3.2.1.45. Coordinate with the applicable MAJCOM prior to requesting support from units assigned to another MAJCOM.

3.3. Air Education and Training Command (AETC) Additional Responsibilities. AETC will:

3.3.1. In conjunction with the AFCFMs, assist in the development of CFETP, CDCs and other training materials based on requirements established by the U&TWs.

3.3.2. Coordinate drafts and final training products with AF/A4LW.

3.3.3. Ensure all tools, support equipment and weapons trainers are on hand and serviceable in the latest configurations to meet all current training requirements.

3.4. Air Force Materiel Command (AFMC) Additional Responsibilities. AFMC will assign weapon system/program acquisition and sustainment management responsibilities for total program support, per AFI 63-101, *Acquisition and Sustainment Life Cycle Management*, to an AFMC Center system program manager.

3.4.1. AFMC will assign program management responsibility to a system program manager for total program support. The system program manager will:

3.4.1.1. Ensure safe and efficient conduct of on-site technical activities performed beyond the scope of the using command.

3.4.1.2. Develop a management plan to cover all aspects of on-site technical activities to be performed and coordinate with the using command.

3.4.1.3. Lead, plan and schedule technical order verification efforts.

3.4.1.4. Develop, test, verify, rewrite, and publish organizational and depot-level maintenance technical orders.

3.4.1.5. Provide guidance and technical expertise during weapon system software updates and final qualification testing.

3.4.1.6. Create and maintain a life cycle product support strategy for assigned air and space equipment IAW AFI 21-118, *Improving Air and Space Equipment Reliability and Maintainability*.

3.4.2. Air Logistics Centers and Product Centers will:

3.4.2.1. Host Product Improvement Working Group (PIWG) for assigned weapons systems IAW AFI 21-118, *Improving Air and Space Equipment Reliability and Maintainability.*

3.4.2.2. Submit an annual schedule of ALC conferences, working groups, etc. to AF/A4LW with courtesy copy to HQ AFMC/A4M not later than 1 May of each year. Examples include ICBM Long Range Planning (ILRP), Global Asset Positioning (GAP) conference, PIWG, etc.

3.4.2.3. Develop technical standards for storage, maintenance, handling, surveillance, and disposition of munitions.

3.4.2.4. Inspect suspected defective items and publish Time Compliance Technical Orders (TCTO) to resolve potential problems.

3.4.2.5. Manage the configuration, distribution, sustainment, and replenishment of weapon systems trainers and munitions testing equipment, and the configuration of assigned weapons.

3.4.2.6. Develop life-cycle plans to ensure AF-owned trainer components at all field units are serviceable and in the latest configuration.

3.4.2.7. ALCs will immediately report critical munitions issues to AFMC/A4MW and affected MAJCOMs.

3.4.2.8. Provide technical orders, supply support, test equipment, and training devices.

3.4.2.9. In coordination with the using MAJCOM prepare and develop funding requests and POM submissions to replace equipment before the end of the established life cycle date, to include allowance standard authorized equipment shortages.

3.4.2.10. Provide depot-level maintenance capability on Electronics Systems Test Sets (ESTS) and Reentry System Test Sets (RSTS).

3.4.3. In addition to the responsibilities in AFI 21-203 and AFI 21-204, the AFNWC will:

3.4.3.1. Maintain the Master Nuclear Certification List for Air Force nuclear certified equipment and is the focal point for the Air Force nuclear certification program IAW AFI 63-125, *Nuclear Certification Program*.

3.4.3.2. Develop and evaluate the safety of nuclear cargo handling and loading procedures to ensure technical provisions are adequate for Air Force modes of transportation.

3.4.3.3. Evaluate the safety of nuclear cargo, equipment, and operations, pursuant to responsibility as the Air Force nuclear safety engineering focal point.

3.4.3.4. Serve as focal point to coordinate Air Force support of nuclear developmental testing with the Center Test Authority. Coordinate system operational testing requirements with MAJCOMs.

3.4.3.5. Serves as the Air Force programmatic and technical interface to Department of Energy (DOE) on counterproliferation and nuclear matters.

3.4.3.6. Provides Air Force Lead Project Officers (LPO) to manage each joint Department of Defense (DoD) - DOE nuclear weapon program IAW DoD Instruction 5030.55, *Joint Air Force-National Nuclear Security Administration (AF-NNSA) Nuclear Weapons Life Cycle Management,* and AFI 63-103, *Joint Air Force-National Nuclear Security Administration (AF-NNSA) Nuclear Weapons Life Cycle Management.*

3.4.3.7. Conduct research and development of advanced weapons technologies, and lead Air Force and joint studies for nuclear weapons, weapon system modifications and life extension programs.

3.4.3.8. Serve as the focal point for AFI 21-210, *Nuclear Weapon Related Visits to Air Force Organizations*. Coordinate with units and applicable MAJCOMs on DOE and non-Air Force visits.

3.4.3.9. Provide Air Force nuclear EOD expertise to HQ Air Force Civil Engineering Support Agency (AFCESA) and joint/interdepartmental agencies. Manage, coordinate changes, and publish/distribute the nuclear 60-series EOD technical publications.

3.4.3.10. Manage technical orders for mate, demate, loading, delivery and air transportation of nuclear weapons and nuclear cargo to ensure procedures comply with nuclear safety rules. Manage technical order foreign military sales cases for non-US North Atlantic Treaty Organization (NATO) delivery units.

3.4.3.11. Manage technical orders in the Joint Nuclear Weapons Publication System (JNWPS) for the Air Force and serve as the Air Force Executive Agent to the JNWPS Council.

3.4.3.12. Forward draft changes to JNWPS manuals to AF/A4LW and applicable MAJCOMs for coordination and serve as the final Air Force approving office for changes to JNWPS technical orders. Changes affecting AF policy directives, instructions, or manuals must be approved by AF/A4LW.

3.4.3.13. Provide Logistics Program Managers (LPM) to manage all aspects of maintenance and logistics requirements for AF nuclear weapons systems. The LPM provides maintenance and logistics expertise to the Joint Nuclear Weapons Project Officers Group (POG) and supports the Lead Project Officer (LPO) on maintenance and logistics issues affecting weapon development, modification, and sustainment. The LPMs are assigned as Chairman of their respective Maintenance and Logistics POG Subgroups.

3.4.3.14. Prepare and develop funding requests and Program Objective Memorandum (POM) submissions to replace equipment before the end of the established life cycle date, to include allowance standard authorized equipment shortages.

3.4.3.15. Serve as the Air Force liaison for communications with DTRA and NNSA.

3.4.3.16. Serve as the Service Logistics Agent for all nuclear weapons assigned to the Air Force.

3.4.3.17. Represent the Air Force as a member of the Nuclear Reports Management Group.

3.4.3.18. Track the location and status of nuclear weapons and Nuclear Weapons-Related Materiel (NWRM).

3.4.3.19. Collect and consolidate MAJCOM nuclear weapons trainer requirements and manage procurements and repair/refurbishment with NNSA via Work for Others program-Statements of Work.

3.4.4. The GACP operates and manages Air Force conventional munitions stockpiles IAW AFI 21-201, *Conventional Munitions Maintenance Management* and other applicable DOD and Air Force directives.

3.5. Air Force Global Strike Command (AFGSC) Additional Responsibilities. AFGSC will:

3.5.1. Monitor daily status of missiles and mission equipment critical to CDRUSSTRATCOM commitments.

3.5.2. Participate in the Joint Nuclear Weapons Project Officers Group (POG) and the Maintenance and Logistics subgroup to ensure issues affecting weapon development, modification, and sustainment are addressed.

3.5.3. Coordinate with the AFNWC to determine depot supportability requirements.

3.5.4. Establish guidance to assure units outline specific tasks performed by the analysis function.

3.5.5. Ensure procedures are developed to control and document CM, ICBM Launch Facility, Missile Alert Facility, Training Launch Facility and support equipment cannibalization actions.

3.5.6. Execute responsibilities as Lead Command for the AF Nuclear Munitions Command and Control (NMC2) SharePoint environment.

3.5.7. Develop requirements, budget, and advocacy for nuclear weapons trainers and provide requirements to AFNWC Nuclear Weapons Logistics Division.

3.6. Air Combat Command (ACC) Additional Responsibilities. ACC will execute responsibilities as lead command for the AF MC2 SharePoint environment. ACC is the prime munitions advocate for design, development, and sustainment to AF IT Lead MAJCOM (AFMC).

3.6.1. DELETED.

3.6.2. DELETED.

3.6.3. DELETED.

3.6.4. DELETED.

3.6.5. DELETED.

3.6.6. DELETED.

3.6.7. DELETED.

3.6.8. DELETED.

3.6.9. DELETED.

3.6.10. DELETED.

3.7. Air Force Space Command (AFSPC) Additional Responsibilities. AFSPC will:

3.7.1. Review, coordinate and supplement space launch maintenance guidance as required.

3.7.2. Ensure that any new or modified configurations or maintenance conditions are coordinated with, and approved by, the System program manager responsible for the OSS&E of the systems and end-items prior to implementation.

3.7.3. DELETED.

3.7.4. DELETED.

3.7.5. DELETED.

3.7.6. DELETED.

3.7.7. DELETED.

3.7.8. Request and allocate number of quotas for space professional training courses.

3.7.9. Review, validate, and coordinate unit Engineering Technical Assistance Requests (ETAR) and Maintenance Assistance, requests.

3.7.10. Host Senior Space Launch Maintenance Conference for all assigned units. This conference provides space launch personnel with an opportunity to exchange information and ideas.

3.7.11. Space and Missile Systems Center (SMC). SMC, a subordinate unit of AFSPC, is responsible for research, development, acquisition, fielding, sustainment management, logistics support, depot level maintenance and disposal of assigned military space launch systems, to include space segment, command and control segment, and ground/terminal/user segment. The center is also responsible for on-orbit check-out, testing, sustainment and maintenance of military satellite constellations and other Department of Defense space launch systems. SMC's Space Logistics Group (SLG) provides the maintenance and logistics support management for the sustainment phase of a space weapon system. SMC will:

3.7.11.1. Assign a System Wing Commander (System Program Manager/Single Manager) for each assigned AFSPC system to perform system acquisition and sustainment management responsibilities, and act as the Engineering Cognizant Oversight Authority/Configuration Management Authority in support of AFSPC weapon system operational requirements.

3.7.11.2. In support of transitioning a weapons system to operations and sustainment, assign a System Support Manager (SSM) in the Space Logistics Group (SLG) to ensure maintenance and logistics support for the life of assigned weapon systems.

3.7.11.3. Provide AFSPC with adequate logistics, engineering, and RDT&E support.

3.7.11.4. Maintain configuration management of assigned systems through the System Program Director (Single Manager).

3.7.11.5. Provide guidance for space weapon system unique acquisition, logistics and sustainment.

3.8. Numbered Air Force (NAF) Responsibilities.

3.8.1. Component Numbered Air Force (C-NAF): C-NAFs are the primary function for contingency planning and execution. Day-to-day munitions management and technical issues will be addressed to centralized management agencies and Lead Commands.

3.8.2. The C-NAF/A4, Director of Logistics is the primary advisor to the COMAFFOR for logistics and sustainment support of assigned/attached forces. The C-NAF/A4 provides war-fighting logistics oversight and capability for assigned/attached units and the Air Operations Center (AOC) and operational level planning. C-NAF A4W, Munitions Division (or equivalent) responsibilities for assigned/attached conventional munitions forces are IAW AFI 21-201.

3.9. Twentieth Air Force (20 AF). Twentieth Air Force manages the day-to-day ICBM alert force for CDRUSSTRATCOM. Commander, Task Force 214 will exercise Operational Control (OPCON) of the ICBM force on alert for Commander, CDRUSSTRATCOM. 20 AF will:

3.9.1. Coordinate ICBM forces CDRUSSTRATCOM commitments with supported Commanders and AFSPC.

3.9.2. Develop and exercise wartime logistics support plans and annexes.

3.9.3. Execute maintenance requirements of war fighting plans.

3.9.4. Monitor unit alert and maintenance status for impact on war fighting capability.

3.9.5. Coordinate long-term off alert conditions requiring joint plan interim changes with AFSPC for incorporation into CDRUSSTRATCOM planning.

3.9.6. Assist units with technical expertise necessary to resolve weapon system issues.

3.9.7. Assist units with technical expertise necessary to resolve equipment shortages in coordination with AFSPC/A4M/A4R representatives.

3.9.8. Assist in scheduling deactivation/conversion activities at the units and monitor schedules for deviations and additional support requirements.

3.9.9. Monitor 20 AF unit mobility requirements, taskings, and status to include limiting factors (LIMFACS).

3.9.10. Provide 24/7 nuclear-weapons and associated system technical expertise to Task Force 214, and be a member of the Strategic Operations team for the planning/execution/monitoring of the ICBM generation exercises and operations.

3.9.11. Advise Joint Functional Component Command (JFCC) or 20 AF/AFSTRAT-Space and USSTRATCOM agencies on nuclear stockpile status and operational issues associated with ICBM weapons allocated to USSTRATCOM.

3.9.12. Attend, as necessary or as requested by HQ AFSPC, Joint AF/DOE Project Officer Group (POG) meetings for Transportation, Flight Testing, and Use Control.

3.9.13. Attend and provide weekly updates to USSTRATCOM/CC's Situational Awareness and Readiness briefing concerning nuclear weapons stockpile issues.

3.10. Eighth Air Force (8 AF). 8 AF commands and ensures readiness of assigned forces and is prepared to prosecute an air war for a unified commander or Joint Task Force Commander as

the Commander, Air Force Forces (COMAFFOR), and Joint Force Air Component Commander (JFACC), when so designated. 8 AF will:

3.10.1. Command assigned forces and prepare them for war.

3.10.2. Report CM combat readiness to the commander.

3.10.3. Monitor daily status of CMs and mission equipment.

3.10.4. Provide 24/7 nuclear-weapons and associated system technical expertise to Task Force 204, and be a member of the Strategic Operations team for the planning/execution/monitoring of nuclear bomber generation exercises and operations.

3.10.5. Advise Joint Functional Component Command Global Strike (JFCC-GS), Air Force Global Strike Command (AFGSC) and USSTRATCOM agencies on nuclear stockpile status and operational issues associated with bomber weapons allocated to USSTRATCOM.

3.10.6. Attend, as necessary or as requested by HQ ACC, Joint AF/DOE Project Officer Group (POG) meetings for Transportation, Flight Testing, and Use Control.

3.10.7. Attend and provide weekly updates to USSTRATCOM/CC's Situational Awareness and Readiness briefing concerning nuclear weapons stockpile issues.

3.10.8. As Training Program Manager and lead instructor for Nuclear Aircraft Generation Management Course, plan, organize, develop, and maintain comprehensive lesson plan material.

3.11. Fourteenth Air Force (14 AF). 14th Air Force manages AF space forces to support operational plans and missions for U.S. combatant commanders and air component commanders. As the sole numbered air force for space, 14 AF is the Air Force space task force to U.S. Strategic Command. 14 AF will:

3.11.1. Serve as focal point for operations, scheduling and readiness issues as a liaison between space wings and HQ AFSPC.

3.11.2. Develop and exercise wartime logistics support plans and annexes.

3.11.3. Review, coordinate and supplement space launch guidance and concept documents as required.

3.11.4. Participate in Standardization Evaluation Teams and Staff Assistance Visits to space launch units.

3.11.5. Participate in accident and safety investigation boards as required.

3.11.6. Monitor maintenance status for impact on war fighting capability.

3.11.7. Assist units with technical expertise necessary to resolve weapon system issues.

3.11.8. Assist units with technical expertise necessary to resolve equipment shortages in coordination with AFSPC/A4S/A4R representatives.

3.11.9. Assist in scheduling deactivation/conversion activities at the units and monitor schedules for deviations and additional support requirements.

3.11.10. Monitor 14 AF unit mobility requirements, taskings, and status to include limiting factors (LIMFACS).

3.12. Wing/Installation Commander. Bases and munitions units must establish Department of Defense Activity Address Code (DoDAAC) according to established Department of Defense (DOD) and Air Force management procedures. All individuals and organizations physically controlling, possessing, storing, and maintaining munitions must control, protect, and account for them until expended, consumed, or removed from Air Force stock. In addition to the responsibilities found in AFI 21-101 and applicable AFI 21-2XX series, wing commanders will:

3.12.1. Appoint the Munitions Accountability Systems Officer (MASO) IAW AFI 23-111, *Management of Government Property in Possession of the Air Force* and AFI 21-201, *Conventional Munitions Maintenance Management* and AFI 21-203. This requirement will not be delegated below the Wing/Installation Commander; MXG/CC or equivalent at AFCENT Geographically Separated Units (GSU).

3.12.2. Appoint, or delegate authority to appoint, the munitions key and lock custodian for conventional munitions activities IAW DoD 5100.76-M, *Physical Security of Sensitive Conventional Arms, Ammunition, and Explosives* and AFI 31-101, *The Air Force Installation Security Program.*

3.12.3. Appoint Key and Lock Custodians to manage the nuclear weapons High Security Key and Lock Program.

3.12.3.1. Establish a key and lock program for non-munitions facilities where nuclear weapon TYPE 3 A/B/C trainers are stored. Ensure the program meets all the requirements in AFI 31-401, *Information Security Program Management*. The nuclear weapons High Security Key and Lock Program meet this requirement and there is no need to have a separate program.

3.12.4. Ensure facility requirements are identified IAW AFI 32-1021, *Planning and Programming Military Construction (MILCON) Projects* and AFI 32-1032, *Planning and Programming Appropriated Funded Maintenance, Repair and Construction Projects* for MILCON, O&M and P-341 projects.

3.12.4.1. Ensure a munitions/maintenance facility plan is developed specifying maintenance, upgrade and replacement projects and major impact programs, i.e., new construction, impacts on Lightning Protection System (LPS), nuclear surety and future systems for all munitions/maintenance facilities. This plan should meet current/future missions and personnel quality of life issues. This is a host wing or Air Base Wing responsibility for installations where munitions organizations are tenants or belong to a separate wing.

3.13. Group Commander

3.13.1. In addition to the responsibilities found in AFI 21-101 and applicable AFI 21-2XX series, group commanders will:

3.13.1.1. Ensure a munitions/maintenance facility plan specifying maintenance, upgrade and replacement projects and major impact programs, i.e., new construction, impacts on LPS, nuclear surety and future systems for all munitions/maintenance facilities is developed. This plan should meet current/future missions and personnel quality of life issues. Facility plan will be presented to the host Wing Facility Board.

3.13.1.2. Ensure MAJCOM is notified of any significant munitions related issue that results in an inability to meet mission requirements.

3.13.1.3. Ensure a viable QA program is implemented that complies with the requirements in **Chapter 8** Review recommendations and select technicians to fill QA positions.

3.13.1.4. Ensure safety, security, and technical order compliance is strictly enforced.

3.13.1.5. DELETED.

3.13.1.6. **(ICBM)** Ensure a safe, timely response to discrepancies at missile launch facilities (LF), missile alert facilities (MAF), and support facilities, placing extra emphasis towards clearing non-mission capable and partial-mission-capable discrepancies.

3.13.1.7. Direct maintenance production efforts.

3.13.1.8. Coordinate with appropriate agencies to ensure accomplishment of the maintenance mission.

3.13.1.9. **(ICBM)** Determine maintenance priorities and schedule expenditures of resources in support of the maintenance priority system.

3.13.1.10. Employ technical engineering staff to troubleshoot and resolve weapon system malfunctions beyond the routine scope of technical data.

3.13.1.11. Manage the weapon system oriented supply system.

3.13.1.12. Ensure management of data automation activities, maintenance documentation, and maintenance analysis.

3.13.1.13. Manage manpower, mission support equipment, facilities, financial management, and long-range plans for all maintenance activities.

3.13.1.14. Conduct, schedule, monitor, and control a viable maintenance community training program. Implement master training and individual training plans to ensure personnel are properly trained in a reasonable amount of time to support mission requirements and equipment.

3.13.1.15. **(ICBM)** Maintain local ICBM maintenance training facilities.

3.13.1.16. Ensure maintenance effectiveness by inspecting personnel, procedures, facilities, equipment, technical data, and managerial directives.

3.13.1.17. Ensure management of the unit maintenance technical order system.

3.13.1.18. Ensure management of an effective and viable environmental compliance program.

3.13.1.19. Standardize organizational structure IAW **Chapter 2**.

3.13.1.20. Use the maintenance assistance program, IAW TO 00-25-107, *Maintenance Assistance* or TO 00-25-108, *Communications-Electronics (C-E) Depot Support*, for weapon system malfunctions beyond the scope of technical data.

3.13.1.21. **(ICBM)** Coordinate missile potential hazard situations and technical data waivers with 20 AF/A4.

3.13.1.22. **(ICBM)** Ensure proper configuration management of local ICBM maintenance training facilities.

3.13.1.23. **(ICBM)** Retain possession and responsibility for all Category Code "A" launch facilities.

3.13.1.24. Ensure maintenance personnel are provided the appropriate rest period and do not exceed maximum duty periods. The maintenance activity group commander or equivalent may waive these provisions during actual advanced defense readiness conditions, actual emergencies as defined in DoD Directive 3150.2, *DoD Nuclear Weapons System Safety Program*, AFPD 91-1, *Nuclear Weapons and Systems Surety*, and AFI 91-101, *Air Force Nuclear Weapons Surety Program*, or to resolve an unexpected event (e.g., disabled vehicle, WS3 fault, hoist failure, weather, etc.). The maximum duty period cannot be waived solely to support exercises or inspections. Consider climatic conditions for local work/rest cycles during extreme temperatures.

3.13.1.24.1. Ensure 2WX and 2M0 personnel (except those dispatched as noted in **paragraph 3.13.1.24.2**) handling, loading, or performing maintenance actions on nuclear or conventional weapon systems or explosives do not exceed 12-hours of continuous duty (may be waived up to a maximum of 16 hours) followed by a period which provides at least 8 hours of uninterrupted rest. Duty time begins when personnel report for duty and ends when their supervisor releases them.

3.13.1.24.2. Ensure all personnel who dispatch within the missile field complex receive an 8-hour rest period prior to beginning their scheduled duty period. Duty time begins when personnel report for duty or start their standby period (whichever is earlier). The duty period ends when personnel turn in all equipment and vehicles or release these items to another individual/team, or when personnel arrive at a Missile Alert Facility to Remain Over Night (RON).

3.13.1.24.2.1. All personnel will receive an uninterrupted 12-hour rest period upon completion of an off-base dispatch. Personnel who RON at a Missile Alert Facility will be provided at least 8 hours of uninterrupted rest.

3.13.1.24.2.2. The maximum duty period for dispatching personnel is 16 hours in any combination of on/off-base duty. This maximum duty period may be waived to meet mission requirements consistent with **paragraph 3.13.1.24**.

3.13.1.24.3. Civilian technicians work/rest requirements are governed by contractual/labor management agreements.

3.13.1.25. DELETED.

3.13.1.26. DELETED.

3.14. Squadron Commander.

3.14.1. In addition to the applicable responsibilities found in the AFI 21-101 and the applicable AFI 21-2XX series, commanders will:

3.14.1.1. Prepare a munitions/maintenance facility plan specifying maintenance, upgrade and replacement projects and major impact programs, i.e., new construction, impacts on LPS, nuclear surety and future systems, for munitions facilities. This plan should meet current/future missions and personnel quality of life issues.

3.14.1.2. Ensure emergency action procedures are published IAW AFI 21-201, AFI 21-204 and 21-205, *Command Disable System (CDS) (S).* Publish emergency action procedures to cover, as a minimum, severe weather conditions, explosive incidents and accidents, increased security conditions, and contingency support.

3.14.1.3. Establish Explosive, Missile Safety, and Nuclear Surety programs IAW AFMAN 91-201, *Explosive Safety Standards,* AFI 91-114, *Safety Rules for Intercontinental Ballistic Missiles,* AFI 91-101, *Air Force Nuclear Weapons Surety,* and AFI 91-202, *USAF Mishap Prevention Program.*

3.14.1.4. Enforce the nuclear surety program implemented by the Group, IAW AFI 91-101, *Air Force Nuclear Weapons Surety Program.*

3.14.1.5. Ensure all individuals receive Missile/Weapons Academic, Explosive/Missile Safety, Nuclear Surety, INRAD, and Nuclear Weapons Related Materiel (NWRM) training (for function specific requirements, refer to AFI 21-101, AFI 21-202 or AFI 21-204 and AFI 20-110).

3.14.1.6. Be responsible for munitions items received by their organization and sign the Designation of Personnel Authorized to Request and Receive Nuclear Ordnance Controlled Materiel Items.

3.14.1.7. Manage assigned WRM IAW AFI 25-101.

3.14.1.8. Appoint Munitions Custodians IAW with AFI 21-201.

3.14.1.9. Designate personnel authorized to issue and receive keys IAW **Chapter 7**.

3.14.1.10. Review and certify Access, Approval and Authority List (AAAL) (or equivalent) and Change Letters IAW **Chapter 7**.

3.14.1.11. Ensure munitions facilities sited for explosives storage, inspection, and maintenance are used for their intended purpose. Ensure for munitions structures used for other than their intended purpose waiver or deviation requests are forwarded to MAJCOM for approval. Refer to AFI 32-9002, *Use of Real Property Facilities,* for additional guidance. Ensure facilities are maintained and inspected at the required intervals IAW AFI 32-1065, *Grounding Systems,* and AFMAN 91-201.

3.14.1.11.1. Ensure munitions supervision authorizes storage of munitions mobility equipment, trailers, and test sets in munitions facilities following guidelines of AFMAN 91-201.

3.14.1.12. Establish a Hazardous Waste Program or ensure waste is disposed of IAW applicable directives.

3.14.1.13. Ensure personnel enforce the requirements in AFMAN 91-201 and technical data.

3.14.1.14. Review and sign the semi-annual inventory results briefing letter, as required by AFI 21-201 and return to the MASO within 15 days of receipt.

3.14.1.15. Ensure that munitions activities have sufficient Secure Voice, Secure Internet Protocol Network (SIPRNET) and Non-secure Internet Protocol Network (NIPRNET) capability. Internet connectivity for munitions support is not optional; it is critical to the war fighting effort and required at each operating location. Accurate and timely up-channel munitions reporting depend upon this connectivity.

3.14.1.15.1. Small and unique munitions organizations may utilize the Secure Voice and SIPRNET capability of another flight or organization as long as it is readily available to munitions supervisors.

3.14.1.15.2. Unless otherwise restricted, use of wireless technologies to increase accuracy and enhance data input is encouraged.

3.14.1.16. Ensure computer equipment is compatible with the following software applications/capabilities as required:

3.14.1.16.1. Tactical Missile Records System (TMRS).

3.14.1.16.2. Combat Ammunition System (CAS).

3.14.1.16.3. Munitions Command and Control (MC2).

3.14.1.16.4. Automatic Identification Technology (AIT).

3.14.1.16.5. Digitized technical data.

3.14.1.16.6. Integrated Maintenance Data System (IMDS) (i.e., CAMS)/G081.

3.14.1.17. **(Conventional)** Ensure intrusion detection systems (IDS) are installed IAW DOD 5100.76-M, *Physical Security of Sensitive Conventional Arms, Ammunition, and Explosives*.

3.14.1.17.1. When an IDS is not available, protect munitions as outlined in AFI 31-101, *The Air Force Installation Security Program.*

3.14.1.18. Ensure munitions personnel practice sound maintenance, supply discipline, and financial management.

3.14.1.19. Review all Emergency War Order (EWO), mobility, contingency, and exercise plans affecting the unit.

3.14.1.20. **(Conventional)** Ensure 2W0X1 personnel assigned primary/additional duties outside of the munitions function maintain core combat skills training, specialty qualification, and readiness for contingency deployment in their primary specialty. These personnel should perform primary specialty duties during local exercises/operational inspections.

3.14.1.21. Review applicable host tenant support agreements, inter-service support agreements, and memorandums of agreement (MOA).

3.14.1.22. **(Conventional)** Ensure all upgrade training requirements listed in the AFSC 2W0X1 CFETP and the flights MTL are met prior to upgrade approval.

3.14.1.23. Ensure all individuals and organizations which physically control, possess, store, and maintain nuclear weapons protect and account for these resources while in their custody IAW DoD S 5210.41-M, *Nuclear Weapon Security Manual* and CJSSI 3150.04, *Nuclear Weapons Stockpile Logistics Management and Nuclear Weapons Repots Under the Joint Reporting Structure.*

3.14.1.24. **(Nuclear/ICBM)** Ensure the use of Integrated Maintenance Data System (IMDS) for management of inspection intervals, maintenance and inspection history, condition/status, and work performed on all nuclear weapons system equipment and nuclear support equipment.

3.14.1.25. **(Conventional)** Ensure the Integrated Maintenance Data System (IMDS) (CAMS/G081) is used to manage inspection intervals, maintenance and inspection history, condition/status, and work performed on all MMHE, PGM and Missile Test Sets (MTS), and associated equipment identified in AFI 21-201. Additionally, ensure CAMS is updated as gains, losses, and maintenance actions occur.

3.14.1.26. **(Nuclear)** Provide storage, control, and custodial responsibility for all nuclear weapons items (to include ALC managed parts).

3.14.1.27. Ensure appropriate Special Experience Identifiers (SEI) are awarded to 21Ms to denote level of nuclear of ICBM experience.

3.14.2. Space launch maintenance units will:

3.14.2.1. Assess all phases of DoD Space Launch Systems processing and launch execution.

3.14.2.2. Mitigate risks for mission assurance.

3.14.2.3. Provide risk assessments of launch services contractor regarding mission assurance, safety, security, environmental compliance and resource protection.

3.14.2.4. Ensure a viable maintenance training program is developed, conducted and monitored.

3.14.2.5. Ensure maintenance effectiveness is measured by evaluating/observing/inspecting personnel, procedures, facilities, equipment, technical procedures, and managerial directives.

3.14.2.6. Adhere to Operational Safety, Suitability and Effectiveness (OSS&E) standards.

3.14.2.7. Ensure a chief of maintenance is designated in writing to serve as focal point for all maintenance-related issues.

3.14.2.8. Designate Technical Order Distribution Office (TODO) management as necessary.

3.15. Operations Officer (OO)/Maintenance Superintendent (MX SUPT). The Operations Officer/MX SUPT is also referred to as Maintenance Operations (formerly maintenance supervision). Maintenance Operations advises the squadron commander on technical matters, leads a mission-focused maintenance effort, and manages resources necessary to accomplish the mission. ***Note:*** In a Conventional Munitions Flight, the Flight Commander/Chief is responsible

for these duties in addition to those identified in **Paragraph 3.14**. Responsible for the safe, secure, and efficient use of resources, while maintaining the highest degree of weapons/munitions capability, reliability, and accountability in accordance with all governing standards. The ultimate goal is maintaining a combat readiness capability commensurate with mission tasking. In addition to the applicable responsibilities found in the AFI 21-101 and the applicable AFI 21-2XX series, the Operations Officer and Maintenance Superintendent will:

3.15.1. Provide for the overall daily and long-term production management of weapons/munitions.

3.15.2. Ensure local checklists and publications are approved prior to use IAW AFI 91-101, *Air Force Nuclear Weapons Surety Program* and AFMAN 91-201.

3.15.3. Ensure ORM is practiced at all levels IAW AFI 90-901, *Operational Risk Management an*d AFPAM 90-902, *Operational Risk Management (ORM) Guidelines and Tools.*

3.15.4. Review corrective and preventative actions for each Quality Assurance (QA) program failure.

3.15.5. In coordination with QA ensure a viable quality assurance program is implemented that complies with the requirements in **Chapter 8**.

3.15.5.1. Review QA reports that identify major findings, technical data violations, unsatisfactory condition reports and direct safety violations.

3.15.5.2. Ensure Flight Commanders/Flight Chiefs review QA reports for trends.

3.15.6. Make recommendations for technicians to fill QA positions.

3.15.7. Inform Squadron Commander, Maintenance Group Commander and MAJCOM (by official memorandum to command A4W from MXG/CC or equivalent) when the capability to accomplish the units mission becomes adversely affected. This includes inability to meet minimum Maintenance Capability Letter (MCL), Test/Training Munitions Listing (TTML) or Unit Committed Munitions Listing (UCML) or Mobility Standard Configuration Load (MSCL) requirements.

3.15.8. Ensure Wing Safety is notified of situations that may warrant submission of a Nuclear Weapon System Mishap/Safety Deficiency Report.

3.15.9. Ensure capability exists to receive, store, inspect, assemble, test, repair, transport, and handle weapons identified on the MCL/TTML/UCML, as required by mission taskings.

3.15.10. Assist in the development of the munitions/maintenance facility plan.

3.15.11. DELETED.

3.15.12. Ensure all software and equipment used by unit personnel with nuclear weapons/systems is nuclear certified, as required.

3.15.13. Designate responsible OPR to maintain AAAL and Change Letters IAW **Chapter 7**.

3.15.14. DELETED.

3.15.15. DELETED.

3.15.16. Monitor status and availability of critically short munitions items and resources that may impair mission capability and readiness.

3.15.17. Chair the weekly scheduling/production meeting and approve munitions schedules.

3.15.18. Review munitions unit design operational capabilities (DOC) statements, Unit Committed Munitions List (UCML) and OPLANs.

3.15.18.1. Coordinates changes with the weapons and tactics function and the Wing Weapons Manager.

3.15.19. **(Conventional)** Provide support to joint service and allied operations IAW established memorandums of understanding (MOU) and inter-service support agreements. Refer to Air Force Joint Instruction (AFJI) 21-211, *Emergency Munitions Support for Joint Operations*. Coordinate with the MAJCOM/A4W (or equivalent) before engaging in these operations. Refer to AFI 21-201 for logistics support planning considerations.

3.15.20. **(Conventional)** Develops Chapter 25 - Munitions portion of the In-Garrison Expeditionary Site Plan (IGESP)/Expeditionary Site Plan (ESP) IAW Attachment 26 of AFI 10-404, *Base Support and Expeditionary Site Planning*, for all tasked OPLANs and Joint Strategic Capabilities Plan (JSCP) certified CONPLANs. An MEP is only required if the IGESP or ESP has not been developed or does not provide sufficient munitions data.

3.15.20.1. Ensure unit personnel tasked to deploy in support of OPLANs are familiar with the IGESP/ESP and are involved in developing the munitions annex.

3.15.20.1.1. An annual review of IGESP/ESP must be completed IAW AFI 10-404.

3.15.20.2. Units develop Munitions Employment Plans (MEPs) to provide detailed guidance for deploying and employing munitions personnel when IGESP/ESP are not sufficient or do not exist. The AFCOMAC website (**https://wwwmil.beale.af.mil/9MUNS/default.asp/**) contains MEP formats and examples.

3.15.21. **(Conventional)** Select and appoint munitions inspectors using the criteria in AFI 21-201.

3.15.22. **(Conventional)** Ensure Special Experience Identifier (SEI) 836 is awarded to trained and qualified munitions inspectors IAW AFI 36-2101, *Classifying Military Personnel (Officer and Enlisted).*

3.15.23. Ensure individuals who receive Weapons Safety training and meet all qualifications are awarded SEI 375 IAW AFI 36-2101.

3.15.24. Approve all local checklists, after coordination with Quality Assurance and Wing Weapons Safety.

3.15.25. Ensure use of preliminary T.O's is authorized in writing by the lead MAJCOM, IAW T.O. 00-5-1-WA-1, *AF Technical Order System* and AFI 63-101, *Acquisition and Sustainment Life Cycle Mangement*.

3.15.26. **(Conventional)** Develop and publish unit Movement Control procedures, to include:

3.15.26.1. Roles and responsibilities.

3.15.26.2. Transaction inputs.

3.15.26.3. Complete Round (CR) Management.

3.15.26.4. NWRM assets.

3.15.26.5. Movement validation process using direct-input or the AF IMT 4331, Munitions Transaction Sheet (MTS) IAW AFI 21-201.

3.15.26.6. Discrepancy corrective actions to take.

3.15.27. Review the annual War Reserve Materiel (WRM) PEC 28030 munitions funding requirements. Identify and justify unprogrammed WRM (PEC 28030/28031) requirements that arise during the fiscal year (FY) to the base WRM munitions/equipment manager for presentation to the WRM executive review board.

3.15.28. Ensure key and lock custodians for conventional munitions are appointed IAW DOD 5100.76-M and AFI 31-101 and applicable supplements.

3.15.29. **(Conventional)** Sign the DD Form 577, *Appointment/Termination Record - Authorized Signature*, automated listing or letter authorizing individuals to sign for keys to munitions maintenance and storage facilities. The key issuing authority maintains the documentation.

3.15.30. Ensure applicable explosives site plan data and maps are available in the unit. Source data is maintained by the Wing Safety office. Ensures all planned changes to facilities' usage or footprint are coordinated with wing safety, resource protection, and civil engineering prior to implementation.

3.15.31. Ensure local emergency action procedures (checklists) governing munitions operations during severe weather or electrical storms, explosive incidents and accidents, increased security conditions, and contingency support is published.

3.15.32. Ensure that the local safety office and the MAJCOM/A4W (or equivalent) is notified immediately in the event of an explosive or munitions mishap or incident. Refer to functional policy guidance for additional requirements.

3.15.32.1. **(Conventional)** If it is suspected that an incident or malfunction was caused by in-use, installed, or otherwise configured munitions, notify the Munitions Rapid Response Team (MRRT) through the GACP Customer Relationship Management system IAW AFI 21-201. Additional information about the MRRT team can be found in AFI 91-202. Notify the C-NAF (or Lead MAJCOM) munitions staff (or equivalent) of all MRRT notifications.

3.15.33.1.1. The CRM will prompt the caller to identify whether the call is an Emergency request for MRRT support. The GACP will pass on notification of incidents involving air superiority munitions to the WR-ALC, 575 CBSS/GBLD.

3.15.32.2. **(Conventional)** If a unit has an incident, it is important to preserve the evidence to the maximum extent allowable by operational requirements, safety, and security. An example would be segregating a munition item versus destroying it if it poses no immediate danger. This allows the MRRT or Air Superiority Munitions Logistics Support Action Line (ASMLSAL) team to evaluate all the evidence and recreate the problem.

3.15.33. **(Conventional)** Ensure the OG and MXG are briefed IAW AFI 21-201 and MAJCOM munitions staff are notified when WRM assets quantities fall below established levels.

3.15.34. Ensure all flights use MC2 or NMC2.

3.15.35. Promote a Munitions Recognition Program, consistent with local programs, recognizing exceptional airmen, NCOs, and civilian munitions performers. Be familiar with annual awards and recognition programs IAW AFI 36-2818, *The USAF Maintenance Awards Program*. Prestige of awards should be enhanced with meaningful incentives.

3.15.36. **(Conventional)** Ensure all non-DOD munitions receive approval for storage IAW AFMAN 91-201. These assets are managed in the non-accountable program (AM101A) of CAS. If there is any question to the requirements of AFMAN 91-201, refer the issue to the local Safety Office.

3.15.37. Review or update lessons learned during contingency and wartime operations at the Air Force Lessons learned database located at: **https://afknowledge.langley.af.mil**.

3.15.38. Hold a CAS Users Group meeting prior to and after release of known CAS system updates to ensure all personnel are aware of the changes and discuss any problems discovered.

3.15.39. Implement a self inspection program as required by AFI 21-101 and 90-201 and assess compliance with logistics programs IAW AFI 20-111, *Logistics Compliance Assessment Program (LCAP).*

3.15.40. Designate responsible OPR to maintain AAAL and Change Letters IAW **Chapter 7**.

3.15.41. **(ICBM/Nuclear)** Enforce the use of Integrated Maintenance Data System (IMDS) for management of inspection intervals, maintenance and inspection history, condition/status, and work performed on all weapons system equipment and support equipment. For nuclear weapons, systems, and components use IMDS to direct maintenance and handling by documenting serial number in the Work Center Event narrative or discrepancy. The use of support general Work Unit Codes (WUC), as required, is authorized for weapon specific handling and maintenance. Ensure source documentation (i.e., NOSS, SAAM setup messages, time change item schedules, etc.) is used to create IMDS work orders. Do not input T.O. 11N-20-11 line numbers into IMDS.

3.15.41.1. DELETED.

3.15.42. **(Conventional)** Enforce the use of the Integrated Maintenance Data System (IMDS) (CAMS/G081) to manage inspection intervals, maintenance and inspection history, condition/status, and work performed on all MMHE, PGM and Missile Test Sets (MTS), and associated equipment identified in AFI 21-201. Additionally, ensure CAMS is updated as gains, losses, and maintenance actions occur.

3.15.43. Determine, justify and request adequate storage facilities to protect and secure government property on account.

3.16. Flight Commander/Flight Chief. The Flight Commander/Flight Chief is responsible to the Squadron Commander for the leadership, supervision, and training of all assigned personnel.

Flight Commanders/Chiefs may delegate responsibilities involving day-to-day functioning of sections and elements, as appropriate. ***Note:*** In a Conventional Munitions Flight, the Flight Commander/Chief is also responsible for duties outlined in **paragraph 3.15**. In addition to the responsibilities found in AFI 21-101 and applicable AFI 21-2XX series, flight commander/flight chief will:

3.16.1. Ensure actions are taken to correct discrepancies in the Unit Manpower Document (UMD)/Unit Manpower Personnel Record (UMPR).

3.16.2. Rotate personnel to provide breadth of experience and job opportunities within the flight, their respective career fields, and IAW the appropriate CFETP.

3.16.3. Ensure upgrade-training requirements identified in the 2W/2M CFETP, Flight Master Training Plan, and upgrade tasks identified by the workcenter supervisor are met prior to upgrade approval.

3.16.4. Monitor shift manning, distribution of supervision, equipment requirements and make necessary adjustments.

3.16.5. Ensure shift scheduling considers additional duties, leaves, training and work details to provide maximum capability and minimize work force degradation.

3.16.6. Provide guidance to subordinate supervisors for work force management.

3.16.7. Monitor the Special Certification Roster (SCR) and submit updates to Squadron Supervision IAW AFI 21-101, if applicable.

3.16.8. Inform OO/SUPT, immediately, of any significant production related issues resulting in an inability to meet mission requirements.

3.16.8.1. Review and evaluate management and production reports. Start management actions to meet new workloads or corrects deficiencies identified in these reports.

3.16.9. Ensure inspections are performed on static ground systems IAW AFI 32-1065, *Grounding Systems.*

3.16.10. Ensure a program is established for control of assigned land mobile radios (LMR).

3.16.10.1. Ensure teams transporting munitions with vehicles, including forklifts maintain radio contact with the applicable control center.

3.16.11. Ensure the use of maintenance/munitions information technology systems for management of inspection intervals, maintenance and inspection history, condition/status, and work performed on all munitions and supporting system components/equipment.

3.16.12. Review QA reports for trends and identify corrective and preventative actions for each QA program failure.

3.16.13. Ensure personnel and equipment are identified and prepared to meet deployment tasking IAW: AFI 10-403, *Deployment Planning and Execution;* AFI 36-3802, *Personnel Readiness Operations;* AFI 10-401, *Air Force Operations Planning And Execution* and AFMAN 10-401 Vol 2, *Planning Formats and Guidance.*

3.16.14. Designate the sections and elements responsible for maintaining deployment packages and equipment. Ensure support equipment enclosed in War Reserve Materiel or

Mobility Kits is inspected and maintained IAW TO 00-20-1, *Aerospace Equipment Maintenance Inspection, Documentation, Policies, And Procedures.*

3.16.15. Validate flight equipment and authorizations against appropriate Allowance Standards for items such as: AGE; Alternate Mission Equipment (AME); Test, Measurement and Diagnostic Equipment (TMDE); communications; etc., to ensure required equipment is adequate and excess equipment is disposed of IAW applicable standards. Ensure replacement requisitions are submitted for equipment that is beyond service life with an AFTO Form 375, *Selected Support Equipment Repair Cost Estimate*, filed against it IAW the item T.O.

3.16.16. Ensure munitions support equipment is registered IAW T.O. 35-1-30, *US Air Force Serial Number Registration System for Selected Support Equipment.*

3.16.17. Ensure IMDS/G081 is used to manage inspection intervals, maintenance and inspection history, condition/status, and work performed on all MMHE, PGM and Missile Test Sets (MTS), and associated equipment

3.16.18. Ensure equipment status and historical documents are kept as required and maintained IAW T.O. 00-20 series technical orders.

3.16.19. Ensure personnel comply with the duty hour restrictions specified by the Group Commander.

3.16.20. Review and coordinate on all unit developed plans, training, and programs that affect nuclear surety IAW AFI 91-101.

3.16.21. In coordination with QA ensure a viable QA program is implemented that complies with the requirements in **Chapter 8**.

3.16.22. Ensure assigned or host nation designated Nuclear Certified Equipment (NCE) supporting a nuclear mission is validated monthly against the Master Nuclear Certification List (MNCL) located on the AFNWC website at **https://wwwmil.nwc.kirtland.af.mil/MNCL/index.cfm**. Validation is accomplished by reviewing the MNCL summary of changes.

3.16.23. DELETED.

3.16.24. Ensure an in-process inspection (IPI) list is coordinated with QA and published (if applicable).

3.16.25. Submit formal requests for clarification and guidance on issues not covered by other formal reporting mechanisms (Maintenance Assist, UR, etc.). Submit a request for clarification and guidance once all unit resources have been exhausted. Provide specific details, associated references and actions taken (as applicable). Coordinate with Operations Officer/Maintenance Superintendent (MX/SUPT) prior to release. Release formal request from the flight level (or higher).

3.16.26. **(Nuclear)** Ensure Plans and Scheduling (P&S) reports completion of a TCTO or retrofit to item managers, TCTO monitors, and AFNWC Equipment Specialists IAW T.O. 11N-40-1, *Field Modernization and Retrofit Orders* and T.O. 00-5-15, *Air Force Time Compliance Technical Order Process*.

3.16.27. Review UR/Deficiency Reports (DR)/Dull Sword (DS) reports and maintenance assist requests, before submittal to wing safety, Quality Assurance (QA) or other wing focal point. Ensure they are completed IAW AFI 91-221, *Weapons Safety Investigations and Reports,* T.O. 00-35D-54-WA-1, *USAF Deficiency Reporting and Investigating System,* T.O. 11N-5-1, *Unsatisfactory Reports*, or T.O. 00-25-107-WA-1, *Maintenance Assistance*. Ensure follow-up of all open UR/DR/DS reports.

3.16.28. Comply with local procedures established by the MASO for accountability and management of munitions.

3.16.29. Evaluate all AFTO Forms 22, *Technical Order System Improvement Report and Reply,* for accuracy and applicability.

3.16.30. OCONUS units establish and implement Emergency Destruction of Materiel (EDM) plans when required by supported OPLANS or directed by the C-NAF or MAJCOM. Continental United States (CONUS) units establish EDM training programs only when directed by their Lead MAJCOM. CONUS units do not establish deployable EDM capabilities or kits at CONUS locations. When directed, CONUS deployable forces provide EDM-trained personnel to augment pre-established EDM capabilities within a theater.

3.16.31. When a product deficiency is detected, submit complete deficiency details to QA for submission of the Product Quality Deficiency Reports (PQDR) or deficiency reports (DR) to the appropriate ALC. Provide a copy of the information to the Lead MAJCOM/A4W munitions staff (or equivalent). Ensure PQDR and DR is submitted in accordance with T.O. 00-35D-54-WA-1.

3.16.32. **(Conventional)** Direct development of an effective qualification training (QT) program IAW AFI 36-2201V5, *Air Force Training Program Career Field Education and Training,* the 2W0X1 CFETP and a Combat Munitions Training (CMT) program IAW AFI 21-201.

3.16.33. Ensure element Master Training Plans cover peacetime and contingency tasks.

3.16.34. Ensure applicable Allowance Standards (AS) are reviewed and appropriate action is taken to ensure all authorized items are on-hand or on order with valid documentation.

3.16.35. Enforce the strict use of T.O.s and pertinent publications during all operations.

3.16.36. Ensure T.O. files are current and maintained IAW T.O. 00-5-1. Technical data can only be released outside USAF channels IAW T.O. 00-5-19, *Security Assistance Technical Order Program*.

3.16.36.1. Ensure only the minimum quantities of each T.O. are maintained to meet mission requirements.

3.16.36.2. Ensure actions are taken to add or delete T.O.s as required.

3.16.37. Ensures the appropriate ALC technical content manager is contacted to obtain information/specifications when technical orders do not provide enough detail.

3.16.38. Implement explosives and industrial safety programs IAW AFI 91-202, to indoctrinate newly assigned personnel and administer recurring training for all flight members.

3.16.39. Maintain liaison with the bioenvironmental engineering office having responsibility for monitoring the potentially hazardous environmental conditions within maintenance areas.

3.16.40. Ensure all munitions are transported in a safe and secure manner IAW AFMAN 91-201.

3.16.41. In the event of an explosive or munitions mishap or incident, immediately notify the supporting EOD unit and maintenance supervision.

3.16.42. Ensure submittal of Dull Sword reports as outlined in AFI 91-204, *Safety Investigations and Reports*.

3.16.43. **(Conventional)** Send requests to MAJCOM munitions staff to add complete round codes to the Air Force standard munitions configuration table in the Complete Round Dictionary (CRD).

3.16.44. Comply with T.O. 33K-1-100, *TMDE Calibration Notes Maintenance Data Collection Codes and Calibration Measurements Summaries*, any applicable calibration measurement summary (CMS), T.O. 00-20-14, *AF Metrology and Calibration Program* and other applicable technical directives concerning the use, care, handling, transportation and calibration of test, measurement and diagnostic equipment owned by the flight.

3.16.45. Enforce the foreign object damage (FOD) and dropped object prevention (DOP) programs IAW AFI 21-201.

3.16.46. Ensure good housekeeping practices, safety, security and environmental control standards.

3.16.47. Monitor and ensure environmental health physicals and respirator training, initial and recurring requirements, are accomplished when required for assigned personnel.

3.16.48. Ensure timely accomplishment of delayed maintenance and aggressive follow-up of back ordered parts.

3.16.49. Approve requirements for bench stocks and shop stocks and provide guidance as to the type, location and use by one or more sections. Spot check bench stocks and shop stocks to evaluate adequacy, supply discipline, and housekeeping.

3.16.50. Advise munitions supervision when equipment, vehicle status, or production capabilities adversely impacts flightline support or deployment capabilities.

3.16.51. Ensure operator inspections and user servicing requirements are accomplished on assigned non-powered munitions support equipment IAW T.O. 00-20-1-WA-1, *Aerospace Equipment Maintenance Inspection, Documentation, Policies, and Procedures*.

3.16.52. **(Conventional)** Ensure munitions are not released to agencies or individuals outside the Air Force without approvals required by AFI 21-201.

3.16.53. Ensures sufficient serviceable training munitions are forecasted using the criteria established on HQ USAF/A4LW web page.

3.16.54. **(Conventional)** Ensure explosive operations in munitions areas are performed by a minimum of two munitions personnel. One must be a task-qualified 2W0X1 or civilian equivalent. Munitions supervision approves any exceptions.

3.16.55. **(Conventional)** Ensure capability exists to receive, store, inspect, assemble, test, repair, troubleshoot and deliver all munitions on the UCML, mobility standard configuration load (MSCL), or equivalent, and support munitions tasked for bed-down forces at main operating bases.

3.16.55.1. Obtain this information from deploying unit's UCML, MSCL, Integrated Tasking Order (ITO), Standard Configuration Loads (SCL) and unit fuzing option letters.

3.16.55.2. Demonstrate this capability to a limited extent during local and higher headquarters exercises/inspections.

3.17. Section Commander/NCOIC. The Section Commander/NCOIC is responsible to the respective Flight/Section Chief for the management, supervision and training of assigned personnel. The Section Commander/NCOIC is the technical advisor in their area. ***Note:*** Functional policy in AFI 21-201 or 21-203 align some of these responsibilities to the Element NCOIC. In addition to responsibilities outlined in AFI 21-101, applicable AFI 21-2XX series, and those delegated by the Flight Commander/Chief, the Section Commander/NCOIC will:

3.17.1. Ensure Munitions Control is notified of fire symbol or line number changes affecting munitions storage and/or maintenance facilities as soon as possible after they occur.

3.17.2. Ensure prior to use inspections are completed on hoist, vehicles, and related AGE equipment. Ensure maintenance teams use nuclear certified software and equipment as required.

3.17.3. Coordinate AGE requirements through Munitions Control or Missile Maintenance Operations Center (MMOC) to ensure support capability and eliminate unnecessary duplication of equipment.

3.17.4. Monitor support equipment status and advise the Flight Commander/Flight Chief of adverse impacts on mission.

3.17.5. Validate equipment and authorizations against appropriate allowance standards for items such as: AGE; Alternate Mission Equipment (AME); Test, Measurement and Diagnostic Equipment (TMDE); communications; etc., to ensure required equipment is adequate and excess equipment is disposed of IAW applicable standards. Schedule and complete this validation annually or as required by allowance standard, mission, or other requirements changes.

3.17.6. Ensure personnel and support equipment (including vehicles, AGE and MMHE) status/shortfalls and job starts, delays/significant difficulties and completions are reported to Munitions Control or MMOC as soon as possible after they occur.

3.17.7. **(ICBM)** Vehicle Equipment Section Supervisors will ensure vehicle status is reported to the Missile Maintenance Operations Center (MMOC).

3.17.8. Use procedures in 00-20 series T.O.s to document equipment inspections.

3.17.9. Notify Maintenance Supervision (this may be done through Munitions Control) of any situation that may warrant submission of a Nuclear Weapon System Mishap/Safety Deficiency Report IAW AFI 91-204, AFMAN 91-221, and T.O. 11N-5-1.

3.17.10. Strictly enforce use of prescribed technical data and locally developed checklists.

3.17.11. Ensure scheduled and unscheduled maintenance actions are identified and completed.

3.17.12. Ensure only designated personnel are verifying Urgency of Need Designator (UND) requirements.

3.17.13. Ensure availability of current publications to meet workcenter needs.

3.17.14. Monitor support equipment status and advise the flight chief of adverse impacts on mission.

3.17.15. Ensure each workcenter owning slings, hooks, and other munitions lifting devices (excludes H-gear) inspects them IAW AFOSH Standard 91-46, *Material, Handling and Storage Equipment* and item technical orders.

3.17.15.1. All munitions lifting devices will have documentation of an initial or last proof load test date that includes the weight tested, date performed, and person that performed the test. This may be provided and completed by the manufacturer. This documentation will accompany the lifting device throughout its life cycle. Any lifting device received without this documentation will have a proof test accomplished and documented IAW AFOSH Standard 91-46

3.17.15.2. When any main structural members, such as beams, cables, etc., are manufactured, repaired or replaced the entire assembly must be proof load tested IAW AFOSH Standard 91-46.

3.17.15.3. Hook measurements must be base-lined using the original factory specifications. If the original factory specifications cannot be obtained through the manufacturer or item manager, remove the hook from service. Refer to AFOSH Standard 91-46, for limits on variation from baseline measurements.

3.17.16. Attend applicable scheduling meetings.

3.17.17. Ensure repairs or modifications are not made to weapons or weapon equipment unless authorized by technical data or authorized and coordinated through appropriate channels.

3.17.18. Ensure crew briefings are given before the start of any explosives operation IAW AFI 91-101, AFMAN 91-201 and T.O. 45-51 series.

3.17.19. Maintain shelf life items (lubricants, paint, etc.) IAW AFMAN 23-110, *USAF Supply Manual*.

3.17.20. Ensure emergency eyewash and showers are maintained per AFOSH STD 91-501.

3.17.21. Ensure flammable and combustible liquids are stored according to AFOSH STD 91-501 and AFMAN 91-201.

3.17.22. Ensure respirators are worn inspected and stored, if required, IAW AFOSH STD 91-501 and Respiratory Protection Program.

3.17.23. Ensure oily rags and other waste are stored in proper containers, and containers emptied daily per AFOSH STD 91-501.

3.17.24. Ensure fire extinguisher inspections are performed and documented as required in AFOSH STD 91-501.

3.17.25. Ensure cleaning fluids are used in well-ventilated rooms as outlined in AFMAN 48-155, *Occupational and Environmental Health Exposure Controls*.

3.17.26. Maintain a copy of Material Safety Data Sheets (MSDS) for applicable hazardous consumables. Ensure all personnel have access to MSDSs and comply with them while using hazardous materials.

3.17.27. Ensure personnel are current on explosive, missile safety and nuclear surety training, as required.

3.17.28. Evaluate production and equipment performance to identify deficient areas and initiates corrective action.

3.17.29. Maintain housekeeping, safety, security and environmental control standards consistent with DOD 5100.76-M, AFI 31-101, AFMAN 91-201 and other applicable DOD and AF directives.

3.17.30. Units using electric/pneumatic/hydraulic powered tools such as saws, nail guns, banding equipment, etc., will ensure that written instructions are developed IAW T.O. 00-20-1.

3.17.30.1. Use and these tools IAW AFOSH STD 91-501, Chapter 12 and 18 and T.O. 32-1-101, *Use and Care of Hand Tools and Measuring Tools,* Section II.

3.17.30.2. Ensure availability of written instruction for heat producing devices IAW AFMAN 91-201.

3.17.30.3. To ensure safety of equipment and personnel, all persons involved in wheel dismantling or buildup operations will be thoroughly familiar with the applicable technical orders, rim manuals and OSHA charts entitled "Multi-piece Rim Matching Chart." Refer to AFOSH STD 91-20, *Vehicle Maintenance Shops* and OSHA STD 1910.177, *Materials Handling and Storage: Servicing Multi-piece and Single piece Rim Wheels.*

3.17.31. Provide required maintenance of WRM assets.

3.17.32. Ensure availability of current publications to meet workcenter needs.

3.17.33. Solicit inputs through AFTO Form22, and PQDR submission to promote the product improvement and Reliability and Maintainability (R&M) programs.

3.17.34. Manage the repair cycle program. Reviews pertinent supply products to ensure proper asset management.

3.17.35. AFTO Form 350, *Item Repairable Processing Tag*, is optional except as indicated below:

3.17.35.1. Items needing repair outside the organization may require an AFTO Form 350.

3.17.35.2. Items failing Storage Monitoring Inspection (SMI) will be tagged with an AFTO Form 350, and need not be segregated from serviceable stocks while awaiting repair.

3.17.36. Enforce supply discipline IAW AFMAN 23-110, *USAF Supply Manual*:

3.17.36.1. Ensure bench stock, shop stock, operating stock and work order residue meets production needs, if applicable and managed IAW AFI 21-101.

3.17.36.2. Manage tool storage and replacement, bench stock, and operating stock, if required.

3.17.36.3. Ensure adequate CTKs and special tools are available and controlled IAW AFI 21-101.

3.17.36.4. Spot-check bench and operating stocks to ensure compliance with all required directives.

3.17.37. Ensure the use of DD Form 1500-series tags IAW MIL-STD-129, T.O. 11A-1-10, for other than CC/A munitions assets. Additionally, items are tagged as follows:

3.17.37.1. One tag is attached to each crate, box, metal container, or banded pallet, each loose item or each item on a non-unitized pallet.

3.17.37.2. For items that are bulk/block stacked (e.g., 20MM ammunition and MJU-series flares), only one tag is required per stack, as long as normal lot-to-lot segregation is maintained.

3.17.38. Maintain AFTO IMT 95, *Significant Historical Data*, when applicable, according to T.O. 00-20-1. Maintain any AFTO Form 375, *Selected Support Equipment Repair Cost Estimate*, with the AFTO IMT 95, if applicable.

3.17.39. Initiate local manufacture work order requests.

3.17.40. Ensure visual inspections are performed on lightning protection, facility grounding, and static ground systems IAW AFMAN 91-201, AFI 32-1065 and AFOSH STD 91-38, *Hydrocarbon Fuels*.

3.17.41. Accomplish and submit deficiency reports in the Joint Deficiency Reporting System (JDRS) at URL: **https://jdrs.mil** and IAW TO 00-35D-54. To ensure the appropriate program office is notified of problems, report incidents of improper functioning of munitions to the C-NAF, Lead MAJCOM. For conventional munitions, also notify the appropriate GACP Support Cell via the CRM located at: **https://www.my.af.mil/wm/**.

3.17.42. DELETED.

3.17.43. Ensure training is provided on specific IMDS/G081 subsystems if required:

3.17.43.1. Overview of IMDS/G081 applicable subsystem.

3.17.43.2. Interpretation of output products, IMDS/G081 screens, and reject narratives.

3.17.43.3. How to request background products.

3.17.43.4. Provide job data documentation training to section users.

3.17.44. DELETED.

3.17.45. Prepare and submit schedules as directed.

3.17.46. Evaluate skills, aptitudes and proficiency of assigned personnel to develop workcenter training requirements and ensure effective training programs are instituted.

3.17.47. Determine whether technicians who fail a Personnel Evaluation (PE) should be restricted from performing non-certified tasks unsupervised. If restricted, ensure the supervisor annotates the technician's Job Qualification Standard (JQS) or CFETP IAW AFI 36-2201. For certified tasks, follow AFI 21-204.

3.17.48. Ensure each T.O. and checklist step is annotated, identifying each In-Process Inspection (IPI) point on the affected page (not on the plastic cover) to clearly identify the step as requiring an IPI before proceeding.

3.17.49. DELETED.

3.17.50. Ensure Munitions Control or MMOC is informed of changes to fire symbol, hazard symbol, CIIC, or the storage of classified munitions.

3.17.51. Ensure spotters are used when handling munitions during forklift and bomblift operations.

3.17.52. Ensure all forklift operators complete power industrial training and certification according to AFOSH STD 91-46.

3.17.53. Ensure forklifts transporting munitions have the load secured to the cage or frame utilizing tie-down straps or chains and binders. Discourage the use of forklifts to transport munitions. Cargo trucks shall be used whenever possible.

3.17.54. Ensure personnel use verbal demand-response techniques on all nuclear weapon maintenance, mate/demate, weapons handling, and final assembly tests.

3.17.55. Coordinate with weapons sections and armament flights to determine probable cause and corrective action for munitions failures associated with aircraft armament systems.

3.17.56. Validate the status of Nuclear Certified Equipment (NCE) against the MNCL to ensure certification.

3.17.57. **(Nuclear)** Ensure all required fields are loaded in the Personnel Data/Status tab in SharePoint.

3.18. Munitions Control. The focal point for planning, coordinating, directing and controlling munitions activities. Munitions Control will coordinate with other maintenance activities and emergency response agencies to ensure effective scheduling and use of available resources. It must be located, equipped and arranged to ease the collection, recording and dissemination of information essential for command, control and communications. Specific requirements are outlined in **Chapter 5**.

3.19. Missile Maintenance Operations Center (MMOC). Serve as the focal point for planning, coordinating, directing and controlling munitions/weapons activities in the missile complex at ICBM units. P&S and MMOC responsibilities are located in AFI 21-202, *Missile Maintenance Management.*

3.20. Munitions Accountable Systems Officer (MASO). Oversees all aspects of the daily accountability and management of the conventional and nuclear weapons stockpile. For general

MASO responsibilities, refer to AFI 23-111, for specific conventional MASO responsibilities, refer to AFI 21-201 and for specific nuclear MASO responsibilities, refer to AFI 21-203. MASO will:

3.20.1. DELETED.

3.20.2. DELETED.

3.20.3. Establish and maintain stock levels corresponding to the allocation document. Use the Supplemental Allocation Authorization Request (SAAR) system found on the 784 Combat Sustainment Group (CBSG) website via the AF Portal for all 784 CBSG and 782 CBSG managed assets.3. 20.5. Establish a classified and unclassified organizational e-mail address.

3.20.4. Assume liability for loss, damage, or destruction of accountable property when the loss, damage, or destruction results from negligence, willful misconduct, or deliberate unauthorized use.

3.20.5. Submit timely and accurate property transactions and maintain all appropriate records.

3.20.6. Inventory all property on records of assigned account.

3.20.7. Provide adequate safeguards for property in his or her custody.

3.20.8. Identify urgency and validity of requests for materiel. Promptly submit requests according to DoD and Air Force directives.

3.20.9. Properly identify, request disposition (if required), and dispose of unserviceable, reparable, or excess property on account.

3.20.10. Personally conduct checks to determine accuracy of accountable records and validity of warehouse locations and balances.

3.20.11. Provide effective management direction for committing or obligating public funds.

3.20.12. Maintain asset balances within approved stock levels.

3.20.13. Provide management guidance and training to users and custodians.

3.20.14. Accurately record property transactions, maintain current records pertaining to the account, and reconcile inventories with accountable records.

3.20.15. Promptly report any losses, damage, or other irregularities to the appointing commander.

3.20.16. Ensure prompt inspection of incoming classified property and coordinate with maintenance for verification inspection of nuclear weapons or components as outlined in the applicable technical order.

3.20.17. Maintain the certificate of transfer, any approved waivers and documented MASO reviews as long as accountable documents remain in file with their signature.

3.20.17.1. A separate certificate of transfer shall be completed for each stock record account transferred.

3.20.18. Evaluate training and processes based on Reverse Post (RVP) trends and take corrective action as necessary. If warranted, to ensure integrity of CAS data, the MASO removes individual's CAS access and processing capability.

3.20.19. Track inventory accuracy to identify and correct problem areas and reverse unfavorable trends.

3.20.19.1. Use data to implement corrective action and prevent recurrence.

3.20.20. Appoint the CAS system administrators (SA).

3.20.21. Use AF 68 to authorize CAS user access to personnel managing custody/consumption accounts. Personnel not on AF 68, may be granted access when requested by the users' Commander (or equivalent) and endorsed by the MASO.

3.20.22. Follow-up on difficulty reports (DIREP) when software or procedural errors are suspected or detected. To view CAS DIREPs users may establish a remedy account.

Chapter 4

PLANS AND SCHEDULING

4.1. Plans & Scheduling (P&S). Single point of contact for developing, coordinating, publishing, and distributing maintenance schedules. Plans and schedules the maintenance of live, inert, and dummy munitions, nuclear munitions, missile maintenance, non-powered munitions support equipment, handling equipment, and facility inspection requirements. Additionally, P&S tracks work order completion, manages delayed discrepancy listing (DDL), AWM, AWP, and TCTO programs and in the event of scheduling conflicts, assigns priorities. This function may be decentralized as determined by Maintenance/Munitions Supervision. P&S will:

4.1.1. Serve as focal point to the supported wing plans, scheduling, and documentation (PS&D) administered program.

4.1.2. Assign local ID numbers as required for end items according to 00-20 series T.O.s and update the master ID listing.

4.1.3. Manage the awaiting maintenance (AWM), awaiting parts (AWP), and TCTO programs. Attend the monthly TCTO reconciliation meeting, when required.

4.1.4. Maintain the delayed discrepancy file (AWM/AWP) on munitions items and equipment for scheduling purposes. This may be decentralized at the option of Munitions Supervision.

4.1.5. Determine if any issued TCTO applies to unit assigned weapon systems, munitions, missiles, MMHE and armament/other unit equipment.

4.1.6. Plan, schedule and coordinate with munitions accountability and maintenance supply liaison on all TCTO requirements. A retrofit or alteration on nuclear weapons will be managed by the NARS.

4.1.6.1. TCTO status tracking will be accomplished IAW T.O. 00-5-15, AF *Time Compliance Technical Order System* and T.O. 00-20-2.

4.1.6.2. Notify item managers by message or memorandum when TCTO modification activities are completed for a given series of equipment. Kits are disposed of IAW item manager's directions. Notify the base TCTO monitor completion of TCTO IAW T.O. 00-5-15, Air Force Time Compliance Technical Order Process.

4.1.7. Use extreme caution when using T.O. 11N-20-11 line numbers. Use of line numbers may divulge classified information when inserted into documents or databases containing other weapons data resulting in a compromise. Classify documents IAW AFI 31-407, *Air Force Nuclear Weapons Security Classification Policy*. Line numbers will not be used to schedule maintenance activities (i.e., work orders, maintenance schedules, and forecasts, etc.). Maintenance data reporting for all other NOCM items are not affected.

4.1.8. Authorize the performance of maintenance on nuclear weapons/systems by assigning a Job Control Number (JCN) and initiating a work order through IMDS for each scheduled maintenance task, storage inspection, modification, munitions movement, handling operation, and equipment maintenance actions (servicing, inventory, periodic inspections,

functional tests, acceptance inspections (to include CTK, SE, T&H equipment, industrial/safety equipment, etc.). Munitions Control, MMOC or P&S will issue job control numbers for all unscheduled tasks. Ensure all IMDS products initiated for jobs requiring the two-person concept are annotated "TWO-PERSON CONCEPT APPLIES." Develop a manual work order system (blocks of job control numbers, logs, etc.) for backup during interrupted IMDS service.

4.1.9. Notify the AFNWC Nuclear Weapons Logistics Division on completion of retrofit IAW T.O. 11N-40-1, *Field Modernization and Retrofit Orders,* and T.O. 00-5-15, *Air Force Time Compliance Technical Order Process*.

4.1.10. **(Nuclear)** Ensure LLCs are installed within timelines established by T.O. 11N-100-2, Supply Management of Limited-Life Components. Weapons will not be permitted to go overdue LLC exchange (RED) when replacement kits are available unless directed by UR response.

4.1.10.1. DELETED.

4.1.11. **(Nuclear)** Ensure line numbers are not used to schedule maintenance activities (i.e., work orders, maintenance schedules, and forecasts, etc…). Maintenance data reporting for all other controlled materiel is not affected. Classify documents IAW AFI 31-407, Air Force Nuclear Weapon Security Classification Policy.

4.1.12. Prepare quarterly rolling forecasts, monthly plans, and weekly schedules. Rolling forecasts, plans, and schedules may be published via electronic means provided OPSEC is maintained. (MAJCOMs will define which individuals/duty sections will attend quarterly, monthly, weekly, and daily production meetings). Maintenance, inspection, and transportation source documents will be used to validate job requirements during these meetings. Include all known operational events to determine maintenance capability to meet operational needs.

4.1.13. Consolidate all known maintenance requirements into a quarterly rolling forecast. Assign all JCN requirements to a specific date in the forecast. Known maintenance requirements are defined as any event that impacts maintenance, equipment, and personnel availability requiring management attention to ensure the smooth flow of scheduling and completion of maintenance activities.

4.1.14. Chair quarterly scheduling meeting NLT the third week of the month before the upcoming quarter to enable a full three month look at upcoming events (rolling forecast). The MX/SUPT approves and signs the quarterly rolling forecast.

4.1.15. Refine quarterly rolling forecast by developing monthly plans. Assign all JCN requirements to a specific date in the plan. Include all known maintenance requirements for the month. Include predictable maintenance factors based on historical data, along with other inputs such as flow times for maintenance, turn-around times, and part replacement schedules.

4.1.16. Chair a monthly scheduling meeting NLT the third week of the month. The MX/SUPT approves and signs the monthly plan.

4.1.17. Refine quarterly rolling forecast and monthly plans by developing weekly maintenance schedules. Evaluate the past week's accomplishments and negotiate/approve

refinements to the coming week's schedule. The weekly schedule will be approved before the upcoming work week. The MX/SUPT approves and signs the weekly schedule.

4.1.17.1. Once the weekly schedule is approved it becomes the final planning guide for maintenance and the basis for deviation reporting. Weekly schedules will be included in the supported wing maintenance plan. All actions on the weekly schedule must be completed. Any change to the approved weekly schedule which adds or removes nuclear weapons or affects another organization will require an AF 2407, *Weekly/Daily Flying Schedule Coordination,* (or equivalent). Additions and removals of nuclear weapons actions (i.e., maintenance, mate/demate, handling, and final assembly tests) are subject to source document verification. Minor adjustments to the schedule such as changing the day on which nuclear weapons action(s) is/are completed does not require completion of an AF 2407 (or equivalent) as long as the action(s) occurs in the same approved week. The agency requesting the change to the weekly schedule initiates the AF 2407 (or equivalent) and coordinates it through the affected agencies. At a minimum, the OO/MX SUPT approves the change to the weekly schedule. MAJCOMs will develop specific procedures to record changes, coordinate changes, and track/brief deviations to the weekly schedule.

4.1.18. Serve as the primary POC for the daily production meeting (daily production meeting is mandatory for nuclear/optional for conventional). At a minimum, the following items will be covered during the meeting: Trained, qualified, certified personnel availability, SE equipment, vehicle, test and handling equipment availability and serviceability, supply and spares availability, and status of previous day's maintenance activities that may impact upcoming activities.

4.1.19. Ensure quarterly rolling forecasts, monthly plans, and weekly schedules consider the following:

4.1.19.1. Maintenance, periodic inspection, and inventory requirements

4.1.19.1.1. Conventional munitions periodic inspections will be scheduled by item, lot or serial number (SN), and quantity of each item scheduled.

4.1.19.1.2. Include periodic inspection and maintenance of inert and dummy training items assigned to custody accounts when required by specific item technical order.

4.1.19.1.3. Include all munitions monthly, quarterly and semi-annual inventories.

4.1.19.2. Test and SE maintenance, inspection, DDL, and TCTO actions by type and S/N or ID number. Include equipment maintenance actions (servicing, inventory, periodic inspections, functional tests, acceptance inspections (to include CTK, SE, T&H equipment, industrial/safety equipment, etc…)

4.1.19.3. Munitions requested to support aircrew training.

4.1.19.4. Aircraft flying schedule requirements.

4.1.19.5. Mobility equipment inspections.

4.1.19.6. Hazardous waste disposal equipment inspections and maintenance.

4.1.19.7. Status of actions taken for approved ADRs, including ADR number, quantity, nomenclature, document number of A5J/shipment; and the scheduled date of disposal/shipment.

4.1.19.8. Current Munitions Allocations Status: Review current status and supportability. For Conventional munitions review status of WRM and training allocations and built-up munitions levels.

4.1.19.9. WRM and training allocations and built-up munitions levels.

4.1.19.10. Training, special activities, HHQ directed missions, and exercises.

4.1.19.11. CE, fire department, and SF requirements.

4.1.19.12. AWM or AWP status. Every effort should be made to include AWM work into the schedule.

4.1.19.13. UR status. Every effort should be made to include UR work into the schedule.

4.1.19.14. TCTO status.

4.1.19.15. T.O. changes.

4.1.19.16. Vehicle and equipment status.

4.1.19.17. Personnel status.

4.1.19.18. Required QA support for certifications or logistics movement support.

4.1.19.19. DELETED.

4.1.19.20. DELETED.

4.1.19.20.1. DELETED.

4.1.19.20.2. DELETED.

4.1.19.20.3. DELETED.

4.1.19.20.4. DELETED.

4.1.19.20.5. DELETED.

4.1.19.20.6. DELETED.

4.1.19.20.7. DELETED.

4.1.19.21. DELETED.

4.1.19.22. DELETED.

4.1.19.23. DELETED.

4.1.19.24. DELETED.

4.1.19.25. DELETED.

4.1.20. Maintain the following records and documentation:

4.1.20.1. TCTO status to include:

4.1.20.1.1. TCTO number.

4.1.20.1.2. Number of kits ordered (quantities, document number and date).

4.1.20.1.3. Number of kits received (quantity and date).

4.1.20.1.4. Number completed.

4.1.20.1.5. Number not completed.

4.1.20.1.6. Rescission date.

4.1.20.1.7. Lot/SN.

4.1.20.2. Current master identification (ID) listing (may be digital) from IMDS and/or MC2.

4.1.20.3. Fire Drills for explosives areas per AFMAN 91-201, excluding launch facilities.

4.1.20.4. Status of all assets in the CAS Intransit Asset Table originating from or destined to the local FV SRAN. Include TCN, estimated DDO, and follow-up or tracer actions with transportation unit to address any problems/delays.

4.1.20.5. CAS System Advisory Notices (SAN) received over the past week.

4.1.20.6. The most current LPS, static ground systems and static grounded worktables inspections and ohms test results (pass or fail) in the munitions/weapons/vault/underground storage areas. Testing and visual inspection will be performed at intervals according to DoD 6055.9-STD, *DoD Ammunition and Explosives Safety Standards*, AFMAN 91-201, and AFI 32-1065. Notify wing weapons safety when deficiencies or discrepancies exist involving lightning protection or static ground systems for risk assessment code application.

4.1.20.7. The last six inspection cycles for all inspections/continuity checks conducted by munitions personnel identified in AFI 32-1065, Table 1.

Chapter 5

MUNITIONS CONTROL

5.1. Munitions Control. Munitions Control is the focal point for planning, coordinating, directing and controlling munitions/weapons activities. Munitions Control coordinates with munitions, weapons, flightline, ICBM missile maintenance activities, security forces, fire department, and the command post to ensure effective flow of information, scheduling, and use of available resources to accomplish the mission. They will actively and aggressively direct, coordinate, and monitor ongoing scheduled and non-scheduled munitions/weapons maintenance activities. They will provide supervisors and managers accurate and timely information on the status of all explosive operations, emergencies, and contingency actions. They will collect information, oversee, make proper notifications, and direct actions to be taken in response to all emergencies, contingency actions, work stoppages, manning, and equipment shortfalls while constantly pushing necessary information which is up-to-date, specific, and reliable to unit leadership. Munitions Control technicians must have a working knowledge of all munitions functional areas, adapt well to stress, and speak in a clear and concise manner.

5.2. Facilities and Communications.

5.2.1. Munitions Control must be located, equipped and arranged to ease the collection, recording and dissemination of information essential for command, control, and communications.

5.2.2. Facilities must meet the minimum-security standards commensurate with the information being maintained and stored. Small and unique units with limited facilities are exempt from the structure requirements in this chapter.

5.2.3. Room(s) are completely enclosed, air conditioned, and heated. Depending on location and mission; walls, ceilings, and floors are normally covered with acoustical material to reduce noise levels. Squadron and munitions supervision determine the need for acoustical materials.

5.2.4. Door must be of solid wood or metal faced construction with a peephole or other suitable method to identify personnel before granting entry. Doors must be mechanically or electrically locked to control access.

5.2.5. Standby power and emergency lighting are required. Units unable to comply with this requirement will establish a local plan to ensure control room activities are not impacted by loss of power.

5.2.6. Obtain sufficient Land Mobile Radio (LMR) nets to meet operational needs. Two dedicated LMR nets may be necessary when operational requirements impose a need for heavy radio communications.

5.2.7. Maintain secure voice communication capabilities to include STE capable of receiving and transmitting up to and including Secret-Restricted Data.

5.2.8. Establish a Secure Internet Protocol Network (SIPRNET) capability within Munitions Control. Internet connectivity for munitions support is not optional; it is critical to the war-fighting effort and required at each operating location. Accurate and timely up-channel

munitions reporting depend upon this connectivity. Small and unique munitions organizations may utilize the STE/SIPRNET capability of another flight or organization as long as it is readily available to munitions supervisors. Provide the phone numbers and alternate SIPRNET information to the applicable MAJCOM.

5.2.8.1. SIPRNET must be capable of reading from/recording to a Personal Computer Memory Card International Association (PCMCIA card) for the download of classified weapon tactical software.

5.2.9. Maintain dedicated telephone lines to the following activities:

NOTE: Units unable to establish dedicated lines must develop a process to immediately contact the following agencies in case of emergencies. Dedicated telephone requirements may be met by an internal intercom system. In small and unique munitions organizations that do not have a Munitions Control; munitions supervision will establish procedures for two methods of emergency notification to security forces and the fire department. Remaining requirements will be implemented at the discretion of the MAJCOM.

5.2.9.1. Security Forces Central Security Control (or equivalent)

5.2.9.2. Law enforcement (or equivalent)

5.2.9.3. MSA/WSA Entry Control Point (as applicable)

5.2.9.4. EOD

5.2.9.5. Base Fire Department

5.2.9.6. Command Post

5.2.9.7. Applicable operations centers (i.e., Wing Operations Center (WOC), Maintenance Operations Center (MOC), or Missile Maintenance Operations Center (MMOC)).

5.2.9.8. Munitions workcenters not collocated with Munitions Control.

5.3. Munitions Control Operations:

5.3.1. Emergency Action Checklists (EAC). Develop, maintain, and use EACs to include: war/contingency plan execution, crash, fire, severe weather, explosive mishaps, major accident response, loss of communication, hung ordnance (if applicable), increased force protection conditions and Nuclear Weapon System Mishaps/Safety Deficiency Reports. Nuclear capable units will also maintain the following EACs: SGT/PNAF support, logistics movement, convoy emergency, safe haven, recapture, denial, and SEV/SEV tests. Use unit operational guides and MAJCOM Emergency Action File (EAF) as a guide to develop checklists. Units will work with base agencies (Fire Dept, Security Forces, etc.) to develop local EACs. Coordinate all checklists involving explosive/nuclear operations through Wing Safety and Quality Assurance. Develop and integrate EACs with the MOC/MMOC where applicable to ensure efficient use of communication and notification systems.

5.3.2. Ensure the following notifications are made, as soon as they are reported:

5.3.2.1. DELETED.

5.3.2.2. Notify Security Forces of changes of contents in munitions storage and maintenance facilities affecting classification or Risk Category. All notifications will be documented in MC2 or NMC2.

5.3.2.3. Notify the Fire Department of any hazard class division 1.1 explosives movements outside the storage area or of changes of contents in munitions storage and maintenance facilities affecting fire symbols, hazard symbols, or T.O. 11N-20-11, *General Firefighting Guidance,* line numbers. All notifications will be documented in MC2 or NMC2. Munitions Control will track line number quantities. Fire departments are not required to track line number quantities.

5.3.2.4. Notify supporting activities before starting hazardous operations or training exercises, such as chemical operations, fire drills, evacuation drills, or EDM exercises.

5.3.2.5. Notify security forces of weapons movements or re-warehousing affecting the security status of storage or maintenance facilities. All notifications will be documented in MC2 or NMC2.

5.3.3. Maintain map(s) showing the entire storage area, primary and alternate explosive routes, evacuation routes, and sited explosives locations outside the storage area (e.g., aircraft parking locations, hot cargo pads, railheads, munitions holding areas, etc.). Receive and validate maps, explosive routes, and explosive locations through Wing Safety.

5.3.4. Maintain work order status to include location of explosive operation, description of operation, crew size, and status (i.e., in-progress, on-hold, etc.). Ensure munitions maintenance teams are aware of evacuation points prior to starting explosive operations. The evacuation points will be specific points (i.e. PAS 12, Bldg 14, base east gate, cross roads, etc.) where all evacuating personnel can assemble and ensure accountability.

5.3.5. Advise all munitions activities and dispatched crews when situations arise that would prevent them from safely completing their task (e.g. lightning, security incident, accident, etc…). Update dispatched personnel at evacuation points as necessary. Immediately report any missing or unaccounted for personnel to the command post.

5.3.6. Notify the flight leadership and Maintenance Supervision of problem areas that could have a negative impact on the mission.

5.3.7. Manage keys and locks or modules to assigned storage and maintenance facilities. Munitions Supervision may delegate management of this program. When delegated, overall program responsibility is also delegated. Refer to **Chapter 7** on the management of this program.

5.3.8. Maintain copies of applicable war and contingency plan annexes/appendixes and flow plans in support of in-place deployment contingency OPLANS.

5.3.9. Maintain current copies of the AAAL or equivalent, change letters, and applicable Entry Authorization Lists.

5.3.10. Maintain results of Civil Engineering (CE) inspections and tests of Real Property Installed Equipment (RPIE) hoist.

5.3.11. Maintain copies of work requests affecting the function of maintenance and storage facilities (not applicable to non-US NATO bases).

5.3.12. Attend daily or weekly maintenance operations scheduling meetings to update munitions support requirements.

5.3.13. Process CAS transactions. All controllers shall be able to process movement and expenditure transactions (including CAS managed NWRM assets) in CAS using direct-input methods outlined in **Chapter 7**.

5.3.14. **(Conventional)** Receive demand requirements in the form of an ATO or flying schedule for sortie generation activity or through various communications and schedules for internal munitions activity and external custody account activity.

5.3.15. **(Conventional)** Evaluate demands when they are received and translates requirements into prioritized production builds to support aircraft sorties or work schedules to support internal work or external customer support.

5.3.16. **(Conventional)** Use the Asset Level Listing to validate current/remaining allocations for training and WRM munitions to ensure levels remain supportable and allocations are not exceeded. Munitions controllers validate remaining allocations during peacetime operations, before assets are prepared, staged or delivered for aircraft support.

5.3.17. **(Conventional)** Upon notification of receipt/departure of aircraft (PCS or TDY) from the expeditor, Munitions control shall load/delete aircraft as CAS containers IAW **paragraph 7.1.6**.

5.3.18. **(Conventional)** Perform direct-input in CAS and ensure CAS generated documents are routed IAW AFI 21-201.

5.3.19. **(Conventional)** Be the focal point for the reconciling expenditures and tracking of missile flying hours.

5.3.19.1. **(Conventional)** If unable to reconcile all expenditures, contact the appropriate functional areas to investigate the problem to determine if the disparity is due to an error in reporting, documentation or physical loss.

5.3.19.2. **(Conventional)** Direct physical counts of flightline munitions as necessary to resolve expenditure conflicts.

5.3.19.3. **(Conventional)** Monitor the status of required post load actions.

5.3.20. **(Nuclear)** Verify weapon, RS, and/or launch gear and configuration status to ensure it matches mission requirements prior to any weapons movement.

5.3.21. **(Nuclear)** Verify work orders are valid against the approved schedule and IMDS when sections call to open work orders. Maintain in-progress work order status of explosive operations to include JCN, location, description of operation, crew size, and start/stop/hold times.

5.3.22. **(Nuclear)** Monitor structure team status and verify individuals are authorized via AAAL to accomplish pre-notification call-ins.

5.3.23. **(Nuclear)** Ensure inventory/status updates are received upon closing of a storage structure/maintenance facility/WS3 and upon shift change in maintenance facilities. Controller will validate inventory and document names of provider.

5.3.24. Movement/load status: A unit standardized matrix will be used to track nuclear weapon/warhead locations during all movements and loading/mating operations outside of limited areas.

5.3.25. Visual Aids. Munitions Control will update the following visual aids when changes occur using the system indicated (locally developed databases will not be used). Nuclear weapons/component data (i.e., serial numbers, storage location, and condition will not be entered into MC2/NMC2, IMDS, CAS, or any locally developed database. All units will use the mandatory fields (* items) identified in MC2/NMC2. For changes to MC2 or NMC2 content, including mandatory fields, contact the appropriate system POC identified in **Chapter 3** of this Instruction.

5.3.25.1. All units will use MC2 or NMC2 to track the following information:

5.3.25.1.1. Personnel data/status

5.3.25.1.2. Munitions Material Handling Equipment status

5.3.25.1.2.1. Munitions Trailer Status. Use applicable data points for trailers in the MC2 or NMC2 SharePoint environment. IMDS will be used for trailer maintenance and inspection management.

5.3.25.1.3. Vehicle status

5.3.25.1.4. Facility capability/maintenance status

5.3.25.1.5. Events tracking

5.3.25.1.6. Work Order Status

5.3.25.1.7. Retrofit Order (RO) status, as applicable. Do not track ROs and special procedures for nuclear weapons on unclassified systems.

5.3.25.1.8. **(Conventional/Nuclear)** TCTO status

5.3.25.1.9. **(Nuclear/Cruise Missiles)** Pylon/launcher status

5.3.25.1.10. **(Nuclear)** RS status

5.3.25.1.11. Nuclear Fire Line Numbers

5.3.25.1.12. Fire Department notifications

5.3.25.1.13. Security Forces notifications

5.3.25.1.14. DELETED.

5.3.25.1.15. UR, DS, DR, and ETAR status, as applicable

5.3.25.2. Units will use the system indicated below to track required information:

5.3.25.2.1. Net Explosive Weight – Quantity Distance (NEW-QD): Conventional units will use CAS exclusively to track NEW for all assets at operating locations, holding areas, and facilities storing assembled and bulk stored assets.

5.3.25.2.2. **(Conventional/)** Missile Management: Missiles will be managed in CAS and TMRS. CAS will be updated with all movements of missiles IAW **paragraph 7.1.8.2.3.6**. TMRS will be updated with flight hours and all required

inspection history data. The MC2 SharePoint environment will be used to capture captive flight hour data.

5.3.25.2.3. Track cruise missile status and location in IMDS and NMC2, as appropriate.

5.3.25.2.4. Use CAS to track conventional munitions and TYPE trainers IAW AFI 21-201.

5.3.25.2.5. **(All/)** Track nuclear weapons TYPE trainers and Tactical Ferry Payloads (TFP) IAW AFI 21-203.

5.3.25.2.6. **(Nuclear)** Nuclear weapon package configuration will be tracked IAW nuclear weapon configuration record (build-up sheet) procedures in AFI 21-204.

5.3.25.2.7. **(Nuclear/)** Weapons, Unassociated Component, and JTAs status: Serial numbers, storage location/area, and service status/color code will be validated/tracked using a DIAMONDS Storage Location Planning report. ***Note:*** For units that do not have DIAMONDS capability in Munitions Control, a printed copy of the storage location planning report will be provided by NARS personnel.

Chapter 6

SPECIAL CERTIFICATION ROSTER AND IN-PROCESS INSPECTIONS

6.1. In-Process Inspection (IPI). An IPI is an additional supervisory inspection or verification step at a critical point in the installation, assembly, or reassembly of a system, subsystem or component. These inspections are either T.O., MAJCOM, or locally directed and are accomplished by qualified personnel as identified on the SCR. The weapon system lead command as defined in AFPD 10-9, *Lead Command Designation and Responsibilities for Weapon Systems,* will determine what, if any, IPIs are required and incorporate any requirements into applicable T.O.s. If utilized, follow management procedures in AFI 21-101 and documentation requirements in T.O. 00-20-1.

6.1.1. DELETED.

6.1.1.1. DELETED.

6.1.1.1.1. DELETED.

6.1.1.2. DELETED.

6.1.1.2.1. DELETED.

6.1.1.3. DELETED.

6.1.1.3.1. DELETED.

6.1.1.4. DELETED.

6.1.1.4.1. DELETED.

6.1.1.4.1.1. DELETED.

6.1.1.4.1.2. DELETED.

6.1.1.4.2. DELETED.

6.1.1.5. DELETED.

6.1.1.5.1. DELETED.

6.1.1.6. DELETED.

6.1.1.6.1. DELETED.

6.1.1.7. DELETED.

6.1.1.7.1. DELETED.

6.1.1.8. DELETED.

6.1.1.8.1. DELETED.

6.1.2. DELETED.

6.1.2.1. DELETED.

6.1.2.2. DELETED.

6.1.2.3. DELETED.

6.1.3. DELETED.

6.1.3.1. DELETED.

6.1.3.2. DELETED.

6.1.3.3. DELETED.

6.1.3.3.1. DELETED.

6.1.3.4. DELETED.

6.1.3.5. DELETED.

6.1.3.6. DELETED.

6.1.3.7. DELETED.

6.1.3.8. DELETED.

6.1.3.9. DELETED.

6.2. Special Certification Roster (SCR): The Special Certification Roster (SCR) is a management tool providing supervisors a clear and concise listing of personnel who have been appointed to perform, evaluate, and/or inspect work of a critical nature. Normally, only maintenance requirements that have a definite potential for personnel injury or damage to equipment shall be included in the SCR. Other tasks requiring special training or qualifications may be managed on the SCR. The SCR is used to build personnel rosters for deployments, shift schedules, and assess workforce capability.

6.2.1. General SCR Guidelines.

6.2.1.1. Contract organizations must submit waiver requests through the QAE to the Group CC or contracting officer for approval. The QAE, through the contracting officer may disapprove waiver requests without Group CC coordination.

6.2.1.2. Certified weapons load crew chiefs (load crew member position number 1) by virtue of their task certification and position serve as inspectors for weapons loading activities and do not require waiver.

6.2.1.3. 2W0X0 Certified Munitions Inspectors are exempt from SCR requirements. Inspectors are CFETP qualified and appointed by the munitions flight chief or commander IAW AFI 21-201.

6.2.1.4. MAJCOMs add other mandatory critical tasks or inspections they deem necessary. Identify each task on the SCR by a specific course code.

6.2.1.5. The AF 2426, *Training Request and Completion Notification*, or MAJCOM-approved (ANG locally approved) form is used by the work center supervisor to add or remove an individual to the SCR.

6.2.1.6. Removal from the SCR may be accomplished by lining through the task on the SCR and notifying training section to update the MIS.

6.2.1.7. The appropriate level approves the individual for addition to the SCR. On approval, the training management function loads the approved name into the MIS.

6.2.1.8. Work center supervisor, flight supervision, Operations Officer/MX SUPT, SQ/CC, or Group CC may decertify individuals at any time and remove them from the SCR.

6.2.1.9. Ensure a current copy of the SCR is taken on all deployments.

6.2.1.10. **Table 6.1** lists mandatory SCR entries and Prerequisites.

6.2.2. SCR Responsibilities

6.2.2.1. Group Commander will:

6.2.2.1.1. Approve specific items identified in **Table 6.1**, Note 1.

6.2.2.1.2. Authorize selected 5-skill level personnel, in the rank of SrA or higher, for tasks normally requiring a 7-skill level requirement to facilitate the production effort. Waived 5-skill level personnel should be closely monitored and kept to the minimum required to accomplish the maintenance mission.

6.2.2.1.3. Approves SCR actions for those individuals administratively assigned to the Group and MOS (QA, AFREP, etc.).

6.2.2.2. Operations Officer/MX SUPT will:

6.2.2.2.1. Manage the SCR (Group CC for the ARC).

6.2.2.2.2. Ensure the SCR is reviewed quarterly (ANG semi-annually) by appropriate work center supervisors to verify that all entries are current and accurate, and prerequisites including applicable training, testing, evaluation, or other requirements for task certification have been completed.

6.2.2.2.3. Take appropriate, timely action to decertify/recertify personnel affected by non-judicial punishment actions or other administrative actions affecting maintenance qualifications.

6.2.2.2.4. Sign the SCR, signifying personnel listed on the roster are certified and qualified to accomplish tasks requiring certification and inspector authorizations. (Not applicable to the ANG).

6.2.2.2.5. Ensure a sufficient number of personnel are qualified to perform mission critical tasks listed on the SCR **Table 6.1** of this instruction. Reviews and approves individuals for addition to the SCR.

6.2.2.2.6. Verify all entries are current and accurate and ensure task certifications have been completed.

6.2.2.2.7. Approves individuals in their primary AFSC based on their experience and technical expertise regardless of their assigned skill position. Seven-skill level personnel may be certified outside their primary AFSC only when specific CUT task qualification is documented in their training records.

6.2.2.2.8. Maintain file copies of approved waivers (ARC: must be maintained by MX supervision or equivalent until the SCR is updated and signed by the MXG/CC).

6.2.2.3. OICs/SUPTs and Flight Commanders/Chiefs will:

6.2.2.3.1. Ensure only designated personnel listed on SCR verify MICAPs/Urgency of Need (UND) 1A and JA requirements.

6.2.2.4. The Section NCOIC will:

6.2.2.4.1. Designate Tow Team Supervisors and recommends individuals for addition to the SCR.

6.2.2.4.2. Review each individual's qualifications prior to recommending approval to perform SCR tasks to the appropriate approval level.

6.2.2.4.3. Retain their copy of nomination until they verify proper loading.

Table 6.1. Mandatory Special Certification Roster (SCR) and Prerequisites.

	A	**B**
Item	**Mandatory SCR Item Titles**	**Prerequisites**
1	All Systems "Red-X" (no egress, welding, munitions, fuel cell (in-tank work))	MSgt or higher (or civilian equivalent) (Note 1).
2	Exceptional Release (ER)	
3	"Red-X" Down Grade	
4	All Systems IPI	
5	"Red-X" by Primary AFSC (PAFSC) and MDS (For multiple MDSs, list separately)	SSgt or higher (includes MXG/CC-appointed exceptional SrA as an FCC), minimum 7-skill level (or civilian equivalent)
6	IPI by PAFSC and MDS (For multiple MDSs, list separately)	
7	"Red-X" and/or IPI - limited (For multiple MDSs, list separately), for tasks outside PAFSC through cross-utilization training or limited tasks within the PAFSC	SSgt or higher, minimum 7-level (or civilian equivalent), Use for personnel certified on tasks in other AFSCs through cross-utilization training or personnel certified on limited tasks within their AFSC as determined by the unit (Note 2).

	A	**B**
Item	**Mandatory SCR Item Titles**	**Prerequisites**
8	MICAP Approval	MSgt or higher, minimum 7-level (or civilian equivalent) (Note 2).
9	CANN Authority	MSgt or higher, minimum 7-level (or civilian equivalent) (Note 1).
10	NRTS and Serviceability Tag	SSgt or higher, minimum 7-level (or civilian equivalent) (Notes 2, 3,and 4).
11	Clear Red-X when a lost tool/item cannot be located	Operations Officer/MX SUPT or above

NOTES:

1----Approved by Group CC

2----Approved by Operations Officer/MX SUPT

3----Operations Officer/MX SUPT may delegate approval authority to the flight commander/chief.

4----Munitions inspectors who are trained and certified may annotate serviceability tags for munitions items (TO 11A-1-10).

Chapter 7

MUNITIONS KEY AND LOCK MANAGEMENT

7.1. General.

7.1.1. Security of and controlling access to munitions storage and maintenance facilities helps guarantee physical inventory control and accountability of munitions. These procedures apply to government-owned facilities including those operated by contractors.

7.1.2. Protect keys used to secure classified munitions with a classification at least equal to the classification of the items being secured. Master keying is prohibited. Keys to high security locks will not be duplicated.

7.1.3. Keys to conventional munitions storage and maintenance facilities will be controlled and secured IAW DoD 5100.76-M, AFI 31-101, and the procedures in this chapter. An individual authorized to issue keys will not issue key(s) to themselves unless responding to emergencies or during non-duty hour stand-by response where limited personnel availability necessitates such action.

7.1.4. **(Nuclear)** Keys to nuclear weapons storage and maintenance facilities will be controlled IAW DoD S-5210.41M, AFMAN 31-108, Nuclear Weapons Security Manuals, and the procedures in this chapter. Nuclear munitions keys will be secured with a GSA approved lock requiring a minimum of two separate combinations or two GSA approved locks. Units must ensure no one individual is given both combinations to key container(s) or locks, or has physical possession of both keys at one time. ***NOTE:*** Cell unlock devices do not fall under the high security key and lock management program.

7.1.5. Rooms where munitions storage structure keys are stored will be secured during non-duty hours. Access to the room is restricted to authorized personnel.

7.1.5.1. **(Nuclear)** At unit discretion, keep keys to nuclear weapons storage and maintenance facilities at any 24-hour manned or alarmed container, room, or facility within the restricted area during non-duty hours. If stored in security facilities, do not give the combinations or assign security forces key responsibilities. Key containers belong to, and are controlled by the munitions activity.

7.1.6. Store primary keys separate from spare/control (maintenance) keys. Keys may be stored within the same safe as long as they are locked in different drawers.

7.1.6.1. **(Conventional/)** Both primary and spare keys may be issued when required to support daily operations. Monitor this practice closely to identify adverse key control trends.

7.1.7. Keys to conventional facilities will not be stored in the same key box as the keys to nuclear facilities. This restriction does not preclude a conventional facility key box from being stored in the same safe as the nuclear facility key box.

7.1.8. All keys removed from their storage container shall remain under the constant surveillance of personnel authorized to receive or issue keys to preclude unauthorized access or duplication. When not in use, keys will be returned to key issuing authority (i.e., keys will not be taken to lunch, home, etc.).

7.1.9. Locks and cylinders are received with a control key (for lock maintenance) and two non-control keys. Designate one non-control key as primary and the remaining non-control key as a spare. Control keys may be designated and issued as spare keys in the event that a non-control key becomes unserviceable (in this situation, a minimum of two serviceable keys for each lock or cylinder must be maintained).

7.1.10. If primary or spare key is broken and all pieces of the broken key are recovered, destroy the broken key pieces. Annotate the AF 2427, only two keys remain for that lock. If all pieces cannot be recovered, remove remaining keys and cylinder from service and dispose of accordingly. Broken or damaged control keys require replacement of the cylinder.

7.1.11. Replace cylinders of compromised (i.e., lost, found in the possession of an unauthorized individual, or discovered to have been removed from the storage area) primary, spare, or control keys. Never use compromised keys or cylinders to secure nuclear storage structures or facilities.

7.1.12. Units may establish reserve stocks of locks and cylinders to support preventative maintenance, scheduled rotation, or replacement. Control reserve locks and cylinders in a safe, metal box, or similar container protected by a GSA-approved 3-position combination lock. Reserve cylinders and keys will be inventoried anytime the storage container is opened and during the monthly key and lock audit.

7.1.13. Use the DoD Lock Program website at: **https://portal.navfac.navy.mil/portal/page?_pageid=181,4914415&_dad=portal&_schema=PORTAL** for instructions to ship or order replacement high security locks, cylinders, and hasps. For proper disposal and demilitarization of high security padlocks contact the DoD Lock and Hasp Program Technical Support Hotline: 717-770-6492 or DSN: 771-6492.

7.1.14. Upgrade locks and hasps as required to meet minimum penetration delay requirements set forth in DoD 5100.76-M, DoD S 5210.41M (Nuclear), AFMAN 31-108(Nuclear), and MIL HBDK 1013-1/A.

7.1.15. Padlocks will be physically retained or locked to the hasp when the entry gate, munitions structure or key container is open to prevent theft or substitution of the key, cylinder, or lock.

7.1.16. Responsibilities.

7.1.16.1. Wing/Installation Commander will:

7.1.16.1.1. Appoint a primary and alternate key and lock custodian IAW DoD 5100.76M and DoD S 5210.41M (Nuclear) to manage custody and handling of keys and locks used to secure munitions maintenance and storage facilities. Key and lock custodians will have a security clearance equal to or greater than the items being secured by the keys and locks.

7.1.16.1.2. Appointment letters shall include full name, enlisted/officer/civilian, last 6 of the SSAN and security clearance. Do not include SSAN on appontment letters for access to conventional munitions facilities keys or locks.

7.1.16.1.3. Ensure the letter has the required privacy act statement and is marked "For Official Use Only" (FOUO).

7.1.16.1.4. Ensure keys and cylinders are audited and documented with each change of key and lock custodian.

7.1.17. Munitions Supervision will:

7.1.17.1. Munitions supervision determines munitions elements to control (e.g., issue and receive) keys, cylinders, and locks provided written procedures are developed to specify responsibilities and all requirements of applicable directives are satisfied.

7.1.17.2. Munitions Supervision authorizes personnel to issue and receive keys in writing. Ensure the authorization letter has the required privacy act statement and is marked "FOUO". Pen and ink additions are prohibited, however pen and ink changes to delete individuals from the list is authorized.

7.1.17.3. The list will include name, grade (e.g., officer/enlisted/civilian), Security Clearance, and last 6 digits of the SSAN. Personnel authorized to issue keys may also be authorized to receive keys.

7.1.18. Key and Lock Custodians will:

7.1.18.1. Ensure compliance with key, lock, and hasp security requirements for munitions maintenance and storage facilities contained in these procedures and applicable procedures in DoD 5100.76-M or DoD S-5210.41M and AFMAN 31-108, *Nuclear Weapons Security Manuals*.

7.1.18.2. Order replacement cylinders IAW T.O. 44H2-3-1-101, *Operation and Maintenance Instruction, High, Medium, Low Security Hardware*. Ordering individual replacement keys is not authorized.

7.1.18.3. Manage cylinders and keys used with locks on munitions maintenance and storage facilities (including spare cylinders and keys) using an AF Form 2427.

7.1.18.4. Engrave or stamp local serial number on keys to high security padlocks and obliterate manufacturer's serial number, if present. Annotate local serial number on the AF Form2427 (do not record manufacturer's serial number) and destroy the manufacturer's tag. Do not engrave or stamp serial number on cylinders or lock bodies. If manufacturer's serial number is present on packaging material (e.g. box), either obliterate serial number or destroy packaging material.

7.1.18.5. Brief responsibilities to personnel who perform key and lock audits.

7.1.18.6. Document keys and cylinders removed from Key Control Program. This is accomplished by placing a single inked line through columns 1 through 4 of the entry to be deleted on the AF Form2427 and enter the date removed from program in block 2.

7.1.18.7. Ensure primary, spare, and control keys are inventoried by local serial number at the end of every shift (by agency controlling access to the keys) during which keys were issued or weekly, if keys were not issued. Inventory key containers sealed with railroad seals or similarly coded devices by verifying seal integrity and seal serial numbers. Ensure seal numbers are annotated on the AF Form2432, Key Issue Log.

7.1.18.8. Ensure locks securing nuclear weapons maintenance and storage facilities are rotated annually. Document annual lock rotation on existing AF 2427, or initiate a new

AF Form2427 and dispose of the old one IAW Air Force Records Disposition Schedule located at **https://www.my.af.mil/gcss-af61a/afrims/afrims/**.

7.1.18.9. Ensure locks and hasps are inspected and lubricated at least every 6 months. Perform only maintenance actions listed in TO 44H2-3-1-101 to avoid lock damage. Do not interchange cylinders when replacing cylinders on high security lock Models H-831B and LK1200. Document all lock and cylinder maintenance.

7.1.18.10. Locally dispose of unserviceable keys, locks and cylinders. Individual unserviceable keys/cylinders will be destroyed prior to disposal. If serviceable keys and associated cylinder are being removed from service, key destruction is not required; however, annotating the AF Form 2427, *Lock and Key Control Register*, is required. Destruction of individual keys will be completed as follows:

7.1.18.10.1. Two individuals will destroy keys/cylinders to a point that reasonably prevents duplication. Key and lock custodian will verify destruction.

7.1.18.10.2. All serial numbers are obliterated.

7.1.18.10.3. Record on AF Form 2427.

7.1.18.11. Document combination changes by letter. Do not record combinations. If a safe is used for the sole purpose of securing keys, the AFTO 36, *Maintenance Record for Security Type Equipment*, must be used.

7.1.19. Key Issuing Authorities will:

7.1.19.1. Ensure keys are issued, returned and transferred only to authorized individuals in possession of a valid workorder. Ensure AF Form2432 is documented for all key transactions.

7.1.19.2. Prior to issuing or transferring keys verify individuals against a current copy of the authorization listing (e.g. Entry Access List, Access Area Authorization List, etc…).

7.1.19.2.1. Individuals must have a security clearance equal to or greater than the munitions items being secured.

7.1.19.2.2. Individuals are authorized to transport conventional munitions keys between the non-duty hour storage facility and the on-duty issuing location. Only one authorized individual is necessary to transport conventional keys.

7.1.20. Key and Lock Management.

7.1.20.1. Initiating an AF Form 2427, Lock and Key Control Register. The AF Form 2427 is used to control locks, cylinders, and keys used on nuclear and conventional maintenance and storage facilities, including reserve cylinders and keys (Figure 5.1). All entries will be typed or in ink (***EXCEPTION:*** columns 2 and 3 may be in pencil). Dispose of AF Form 2427s IAW Air Force Records Disposition Schedule located at **https://www.my.af.mil/gcss-af61a/afrims/afrims/**.

7.1.20.1.1. Column 1: Annotate locally assigned serial numbers.

7.1.20.1.2. Column 2: Enter the specific locations (building, cubicle, bay, etc.) of the cylinder associated with the key serial number listed in column 1 (e.g. Igloo 1 or Bldg 2410).

7.1.20.1.3. Column 3: Enter date the lock was installed at the location specified in column 2.

7.1.20.1.4. Column 4: Enter the building number where the primary, spare and control keys are stored. If the spare and the control keys are stored in different buildings, both locations will be entered in the “spare” block of column 4 (e.g. Spare - Bldg 2410/Control - Bldg 1240).

7.1.20.1.5. Column 5: Enter the date locks, cylinders, and keys were audited. Only one line entry in column 5 is needed to document the audit of the entire page.

7.1.20.1.6. Column 6: The persons performing the audit will sign to certify audit completion. Only one line entry in column 6 is needed to document the audit of the entire page.

7.1.21. Key Audit Procedures. An audit is a physical check (operating cylinder with either the primary, spare, or control key set) of all locks cylinders used to secure munitions maintenance and storage structures or spare cylinders. In addition, the local serial numbers and location of all keys and cylinders are verified (including spare cylinders) with the AF Form2427. Verify the key serial numbers of the remaining two key sets not used for the physical check with the AF Form2427. Enter Date of Audit in Column 5 and both individuals performing the audit will sign and print last name in column 6 of all AF 2427 (**Figure 7.1**). Only one line entry in column 5 and 6 is needed to document the audit of the entire page.

7.1.21.1. Key audits will be accomplished when appointing new Key and Lock Custodians.

7.1.21.2. Key audits will be accomplished monthly for nuclear weapons maintenance and storage facilities.

7.1.21.3. Key audits will be accomplished semi-annually for conventional maintenance and storage facilities.

7.1.22. Key Transactions - Key Issue, Turn-in, Transfer and Inventory Procedures. Use AF Form2432 to document key activity for keys and locks securing munitions maintenance and storage facilities. The log is annotated when keys are issued, turned in, transferred or inventoried (**Figure 7.2**). Separate forms are used for each primary, spare, and control key set. Mark forms the appropriate set title. Dispose of forms IAW Air Force Records Disposition Schedule located at **https://www.my.af.mil/gcss-af61a/afrims/afrims/**.

7.1.23. Key Issue Documentation.

7.1.23.1. Enter structure and bay (as applicable) number in the structure column. Multiple structures and bays may be entered on one line as long as all entries are legible (e.g. Igloo 1).

7.1.23.2. Enter time in "Out-Time" block using the 24hrs-format (e.g. 0800).

7.1.23.3. Enter date in "Out-Date" block using the day, month, and year format (e.g. 24 Jan 06).

7.1.23.4. Individual 1 will sign their full name and print their last name in the "Out-Signature" column, block 1.

7.1.23.5. Individual 2 will sign their full name and print their last name in the "Out-Signature" column, block 2.

7.1.24. Key Turn-in Documentation.

7.1.24.1. Locate entry signing out applicable keys. If more than one key was signed out in the structure block and a portion of those keys are being turned in, all keys must be turned in and required keys must be re-signed out.

7.1.24.2. Enter time in "In-Time" block using the 24hrs-format (e.g. 0900).

7.1.24.3. Enter date in "In-Date" block using the day, month, and year format (e.g. 24 Jan 06).

7.1.24.4. Individual 1 will sign their full name and print their last name in the "In-Signature" column, block 1.

7.1.24.5. Individual 2 will sign their full name and print their last name in the "In-Signature" column, block 2.

7.1.25. Key Transfer Documentation. The Key Issue Authority will:

7.1.25.1. Locate entry signing out the applicable keys. If more than one key was signed out in the same structure block and portions of those keys are being transferred, all keys must be turned in and keys signed out as required.

7.1.25.2. Enter structure or bay (as applicable) number(s) of transferred keys in the "Structure" column and the words "Key Transfer.

7.1.25.3. Enter time key transfer took place in the "Out-Time" block using the 24hrs-format (e.g. 1230).

7.1.25.4. Enter date key transfer took place in the "Out-Date" block using day, month and year format (e.g. 24 Jan 06).

7.1.25.5. Print the name of the personnel receiving the transferred keys in the "Out Signature" block.

7.1.25.6. On the original key sign out line, the key issuing authority will:

7.1.25.7. Enter time key transfer took place in the "In-Time" block using the 24hrs-format (e.g. 1230).

7.1.25.8. Enter date key transfer took place in the "In-Date" block using the day, month, and year format (e.g. 24 Jan 06).

7.1.25.9. In the "In-Signature" block, the key issuing authority prints "Key Transfer" in block 1 and signs and prints their last name in block 2, verifying the key transfer entry is complete.

7.1.25.10. When personnel receiving the transferred key(s) return, and secure the keys, they complete the "In-Time, In-Date and In-Signature" blocks.

7.1.26. Key Inventory Documentation

7.1.26.1. Enter "Key Inventory" in the structure column.

7.1.26.2. Place hash marks "/ " in the "Out-Time, Out-Date and Out-Signature" blocks

7.1.26.3. Enter time in "In-Time" block using the 24hrs-format (e.g. 1800).

7.1.26.4. Enter date in "In-Date" block using the day, month, and year format (e.g. 24 Jan 06).

7.1.26.5. Individual 1 will sign their full name and print their last name in the "In-Signature" column, block 1.

7.1.26.6. Individual 2 will sign their full name and print their last name in the "In-Signature" column, block 2.

7.1.27. Release of Conventional Munitions Keys to Organizations Outside the Munitions Activity.

7.1.27.1. Keys to munitions structures located within the MSA are not generally released to organizations outside the munitions activity. To provide local assistance, munitions supervision may approve personnel outside the munitions activity to receive keys and authorize placement on the Entry Authorization List (EAL). Munitions Supervision must verify proper security clearance prior to approval.

7.1.27.2. Under unique circumstances, Munitions Supervision may authorize release of conventional facility keys in writing. This authorization is granted only after local procedures for control of keys and facility access is developed, agreed to by all units involved, and approved.

7.1.27.3. Before implementing these options, ensure consideration is given to munitions storage area and facility access, security and alarms, required notifications, 24-hour coverage, and explosive safety criteria.

7.1.27.4. These options apply to unique and emergency conditions and shall not be used for routine activities or personnel convenience. Unique circumstances include:

7.1.27.4.1. Emergency EOD or SFS response when support of normal munitions stand-by personnel is not a viable option.

7.1.27.4.2. Units operating from/supporting geographically separated installations (CONUS or OCONUS) may release the primary (daily-use) keys outside the Munitions Activity. The application of geographical separation to the operating/support environment is at the discretion of Munitions supervision. For example, geographical separation may be based on a significant distance (e.g., different region or country) or may be a short distance (e.g., local barriers impeding effective access/movement such as a highway, flightline, or other obstacle).

7.1.27.5. The commander of the organization owning and controlling access to facilities must approve designated personnel outside the organization as key issuing authorities, key control custodians, and key issue/receipt authorities, as appropriate, for the designated facilities.

7.1.27.6. Personnel appointed to maintain primary/spare keys to munitions facilities outside the MSA must comply with all provisions of DoD 5100.76-M, AFI 31-101, and AFI 21-201 for key and lock control and documentation to include key issue logs, key and lock control registers, key and lock audit records. When complete, submit these documents to the host Munitions Control activity for filing and disposition.

7.1.28. **(Conventional)** Automated Key and Lock Control Procedures.

7.1.28.1. Automated records documentation requirements: An Air Force approved and accredited information system that requires individual password access (by the key issuing authority and key receipt individual) and creates a historical record of the key transaction is authorized for use.

7.1.28.2. The automated system must be able to record, display, and retrieve key transaction records including the rank, name (or password) that identifies the individuals involved in the transaction, date and time of the transaction, and key or facility number.

7.1.28.3. There is no requirement for printed automated key control records, however automated record must be retrievable on-demand and display all required information for the same time period that printed copies are required to be maintained on file.

7.1.28.4. If an electronic/digital key control system is used, the UserID/Password combination or CAC/PIN satisfies signature requirements for access identification and authorization controls.

7.1.29. Dual signature is not required unless directed by DoD 5100.76-M and AFI 31-101. If required, both individuals will remain at the facility while it is open and these assets will not be transferred to a lone individual. Dual signatures are not required unless mandated by AFI 31-101 or DoD 5100.76-M. In the event dual signatures may become required, two line entries with the same structure number will be used.

7.1.30. Units are authorized to maintain multiple key issue logs when authorized by munitions supervision in writing.

7.1.31. **(Conventional/)** Groups of keys may be issued to a munitions function then re-issued to authorized individuals. In these cases, appropriate personnel must be designated as key issuing and receipt authorities in writing. Use a separate log to document key re-issue and receipt actions. Submit all completed forms to Munitions Control where historical documents will be maintained.

7.1.32. Accountability records must contain the name and signature of the individual receiving the key, date and hour of issuance, serial number or other identifying information of the key, signature of individual issuing the key, date and hour of return, and name and signature of individual receiving returned keys.

7.1.33. Weapons Storage and Security System. See USAFEI 33-201, *Operational Doctrine for Safeguarding and Control of Weapons Storage and Security System (WS3),* for code module access procedures.

Figure 7.1. Sample AF Form2427 Lock and Key Control Register.

LOCK AND KEY CONTROL REGISTER					*I certify that locks and keys listed hereon were audited on date indicated.*	
1. SERIAL NUMBER	2. LOCATION	3. DATE INSTALLED	4. KEY STORAGE LOCATION PRIMARY	4. KEY STORAGE LOCATION SPARE	5. DATE	6 SIGNATURE
4806262	Bldg 2410 (A)	1 Apr 01	Bldg 1200	Bldg 3600	20010401	Smith LaRock *Eric Smith* *Corey LaRock*
6925331	Bldg 2410 (B)	1 Apr 01	Bldg 1200	Bldg 3600	5 May 01	Acuri Fordham *Wm. Acuri* *Whitney Fordham*
~~2447108~~	~~Igloo 1 (A)~~ 5 May 01		~~Bldg 2410~~	~~Bldg 2410~~		
5742428	Igloo 1 (B)	1 Apr 01	Bldg 2410	Bldg 2410		
9863969	Shelter 2 (A)	1 Apr 01	Bldg 2410	Bldg 2410		
5832136	Shelter 2 (B)	1 Apr 01	Bldg 2410	Bldg 2410		
7812387	Structure 4 (A)	1 Apr 01	Bldg 2410	Bldg 2410		
6328461	Structure 4 (B)	1 Apr 01	Bldg 2410	Bldg 2410		
7755551	Structure 5 (A)	1 Apr 01	Bldg 2410	Bldg 2410		
2712094	Structure 5 (B)	1 Apr 01	Bldg 2410	Bldg 2410		
4304147	Spare		Bldg 2410	Bldg 2410		
4525288	Spare		Bldg 2410	Bldg 2410		
2250809	Igloo 1 (A)	5 May 01	Bldg 2410	Bldg 2410		

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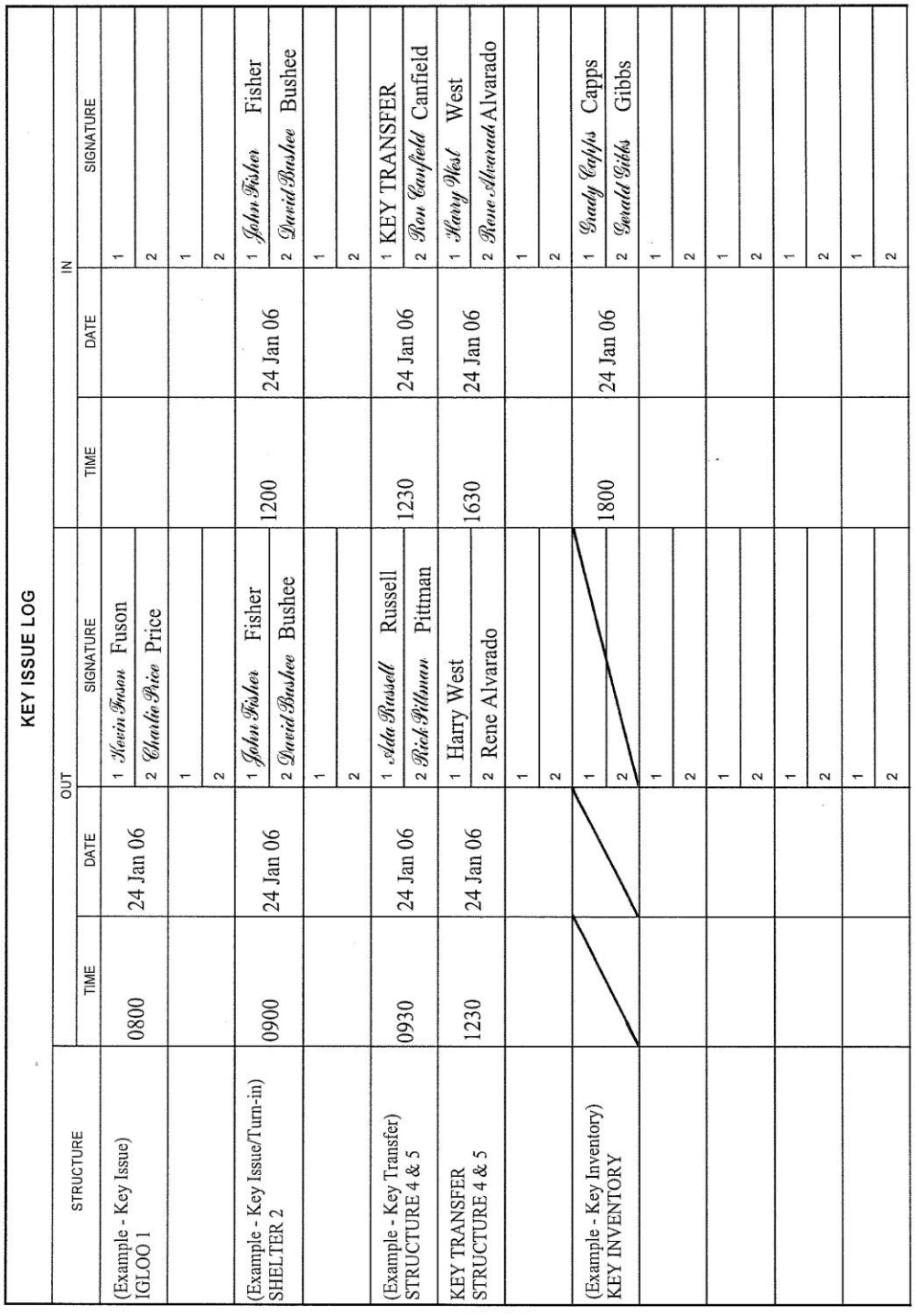
Figure 7.2. Sample AF Form 2432 Key Issue Log.



KEY ISSUE LOG

STRUCTURE	OUT			IN		
	TIME	DATE	SIGNATURE	TIME	DATE	SIGNATURE
(Example - Key Issue) IGLOO 1	0800	24 Jan 06	1 *Kevin Fuson* Fuson			1
			2 *Charlie Price* Price			2
			1			1
			2			2
(Example - Key Issue/Turn-in) SHELTER 2	0900	24 Jan 06	1 *John Fisher* Fisher	1200	24 Jan 06	1 *John Fisher* Fisher
			2 *David Bushee* Bushee			2 *David Bushee* Bushee
			1			1
			2			2
(Example - Key Transfer) STRUCTURE 4 & 5	0930	24 Jan 06	1 *Slate Russell* Russell	1230	24 Jan 06	1 KEY TRANSFER
			2 *Rick Pittman* Pittman			2 *Ron Canfield* Canfield
KEY TRANSFER STRUCTURE 4 & 5	1230	24 Jan 06	1 Harry West	1630	24 Jan 06	1 *Harry West* West
			2 Rene Alvarado			2 *Rene Alvarado* Alvarado
			1			1
			2			2
(Example - Key Inventory) KEY INVENTORY			1	1800	24 Jan 06	1 *Brady Capps* Capps
			2			2 *Gerald Gibbs* Gibbs
			1			1
			2			2
			1			1
			2			2
			1			1
			2			2
			1			1
			2			2

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Chapter 8

QUALITY ASSURANCE

8.1. General Purpose and Scope

8.1.1. Purpose. The Munitions QA program is designed to provide logistics managers and wing leadership with a method to evaluate compliance with AF, MAJCOM and local directives and policies. It provides an objective sampling of both the quality of equipment and the proficiency of personnel. The QA staff evaluates the quality of mission accomplishment and performs necessary functions to manage the group's QA program. QA personnel are not normally an extension of the work force and should not normally be tasked to perform production inspections. QA serves as the primary technical advisory agency in the applicable organization, assisting supervision at all levels to resolve quality problems. The evaluation and analysis of deficiencies and problem areas are key functions of QA that highlight and identify underlying causes of poor quality in the production effort. Munitions equipment condition and personnel proficiency are validated through the QA program and shall be recorded using a MAJCOM-approved QA database.

8.1.2. Scope. The mission of QA is to assess munitions capability and effectiveness by evaluating programs, personnel proficiency and procedures, and inspecting facilities, equipment, vehicles, technical orders, Maintenance Data Collection (MDC) systems and managerial guidance to ensure they are in compliance with AF, MAJCOM and local directives. Specifically, this instruction provides guidance and establishes program requirements covering the following logistics processes and functions:

8.1.2.1. Nuclear/ICBM/Cruise Missiles. Consists of the following areas: Management and Administration, Quality Assurance, Stockpile and Facilities, Key and Lock Management, Tools, Test, Tiedown and Handling Equipment, Technical Operations, Munitions Control, Missile Maintenance Operations Center, Training, and Supply Support.

8.1.2.2. Conventional Munitions and Armament Systems will follow the Maintenance Standardization & Evaluation Program (MSEP) in AFI 21-101, Chapter 8.

8.1.2.2.1. If Conventional Munitions units or Weapons/Armament Systems sections support a nuclear mission, then they will also meet applicable requirements for NCE within this chapter.

8.1.2.2.2. If AFSC 2W0 or 2W1 personnel are certified to perform nuclear operations other than flight line loading (i.e. limited general maintenance, transfer, transport, etc.), they will comply with personnel evaluation requirements for nuclear certified tasks in this chapter.

8.1.3. Objective. QA provides the GP/CC, squadron commanders and supervisors with an unbiased assessment of munitions programs and resources. QA will ensure standardized compliance, identify benchmark programs, and validate deficiencies throughout the group. QA will also identify issues which are beyond the unit's control that require higher headquarters resolution. Additionally, QA will provide training as required.

8.1.4. Execution. The QA program is executed by Group Quality Assurance (QA) which permits the Group Commander to focus the unit program on problem areas where improvements are needed. QA may be augmented by personnel from other organizations.

8.1.4.1. The use of the word "annual" or "annually" within this chapter means not to exceed a 12-month interval.

8.1.4.2. The use of the word "semi-annual" or "semi-annually" within this chapter means not to exceed a 6-month interval.

8.1.4.3. The use of the word "quarter" or "quarterly" within this chapter means occurring once every calendar quarter.

8.1.4.4. The use of the terms "Pass/Fail" and "Satisfactory/Unsatisfactory" may be used interchangeably if the MAJCOM QA database does not support both rating/grading systems.

8.2. Responsibilities

8.2.1. Headquarters Air Force will:

8.2.1.1. Develop and publish functional inspection/evaluation checklists.

8.2.2. Major Commands (MAJCOM) will:

8.2.2.1. Publish command-specific QA guidance as required.

8.2.2.2. Supplement HAF inspection/evaluation checklists as required.

8.2.2.3. Provide oversight and management of their respective unit QA programs.

8.2.2.4. Analyze (LCAP Office) unit reports and report trends to applicable Group Commander and AF/A4LW. Report IAW **Attachment 2**.

8.2.2.5. Critique (LCAP Office) base level QA based on the provided monthly reports if the MAJCOM LCAT determines an error was categorized incorrectly or is invalid.

8.2.2.5.1. Do not change a technician's evaluation record from a Satisfactory or higher rating to an unsatisfactory rating; in this case only conduct the re-critique.

8.2.3. Wing Commanders will:

8.2.3.1. If applicable, establish a Quality Assurance Personnel (QAP) program to oversee contracted maintenance functions.

8.2.3.2. Participate in quarterly QA meeting to keep in touch with munitions maintenance issues.

8.2.4. Group Commanders (or equivalent). QA is responsible to the applicable group or wing CC (MXG/CC, MMG/CC, MXW/CC, etc…) to perform as the primary technical munitions advisory agency and assists work center supervisors in managing the logistics effort. The applicable group or wing CC will (***note:*** the use of the word "annual" or "annually" within this chapter means not to exceed a 12-month interval):

8.2.4.1. Ensure QA is properly staffed based on workload.

8.2.4.1.1. Ensure plans are developed to rotate personnel, as necessary, to enhance the mission and develop individual experience and knowledge. ***NOTE:*** N/A to the ARC.

8.2.4.1.2. Develop a process to assess unit compliance and trends.

8.2.4.2. Ensure activity inspections are conducted as required by this instruction and MAJCOM guidance.

8.2.4.3. Utilize the QA program to ensure standardized inspection and maintenance procedures.

8.2.4.4. Ensure the following requirements and programs are implemented and administered by QA:

8.2.4.4.1. Munitions Activity Inspections

8.2.4.4.2. The Product Improvement Program (PIP)

8.2.4.4.3. Deficiency Reporting (DR)

8.2.4.4.4. Product Improvement Working Group (PIWG)

8.2.4.4.5. Review URs, DRs, Dull Swords, and other incidents as required

8.2.4.4.6. Assist PS&D and the Munitions Flight with the Configuration Management Program IAW AFI 21-101

8.2.4.4.7. Assist PS&D with the TCTO program IAW AFI 21-101.

8.2.4.4.8. Manage One Time Inspections (OTI). OTIs are directed by headquarters and/or TCTO when suspected deficiencies may impact equipment serviceability/safety, or to gather data for trend or engineering analysis

8.2.4.4.9. Evaluate unit maintenance management procedures, including locally developed forms, publications, OIs, checklists etc., for accuracy, intent, and necessity

8.2.4.4.10. Review all new and revised technical orders and TCTO's for completeness, accuracy and applicability. Inform applicable work centers of changes and up channel any problems discovered during this review

8.2.4.4.11. Ensure an in-process inspection (IPI) list is coordinated and published IAW **Chapter 6**, if required.

8.2.4.4.12. Monitor currency, accuracy, status and applicability of technical orders, publications and locally developed instructions

8.2.4.4.13. Serve as the OPR for AFTO Form 22, and CEM improvement report processing and, for Rivet MILE only, review all Engineering Change Requests. Manage TO, CEM and standard publications. Review the following for completeness and technical accuracy:

8.2.4.4.13.1. All new and revised technical orders.

8.2.4.4.13.2. All TO and CEM change requests.

8.2.4.4.13.3. All nuclear maintenance related publications issued within the Maintenance Group.

8.2.4.4.14. Inform affected work centers of TO changes.

8.2.4.4.15. Conduct a technical review of TCTOs, MCLs and modifications. Determine whether:

8.2.4.4.15.1. Unit has current and compatible technical orders.

8.2.4.4.15.2. Technicians need more training.

8.2.4.4.15.3. Technicians need supply items or special tools.

8.2.4.4.15.4. A TCTO, MCL or modification can or needs to interface with another TCTO or modification.

8.2.4.4.15.5. If the TCTO or modification affects nuclear certified products, as defined in AFI 91-103, *Air Force Nuclear Safety Design Certification Program*, then:

8.2.4.4.15.5.1. Forward a copy to the unit Weapon Safety Manager for review.

8.2.4.4.15.5.2. Verify all items annotated as "nuclear certified" are correctly listed at **https://wwwmil.nwd.kirtland.af.mil/mncl/index.cfm**.

8.2.4.4.16. **(ICBM)** Participate in kit-proofing for each phase of PDM maintenance per AFMC Supplement to AFI 21-101.

8.2.4.4.17. Randomly and periodically evaluate TCTO, MCL and modification tasks in progress to ensure quality maintenance and track progress. As a minimum, inspect the first, last, and 10% of each TCTO and modification.

8.2.4.4.18. **(ICBM)** Coordinate TCTO, MCL and modification management actions with Maintenance Operations Flight and applicable MMXS/MOS Flight(s).

8.2.4.4.19. Identify deficiencies, problem areas and root causes. Recommend improvements.

8.2.4.4.20. Conduct the QA Orientation Course.

8.2.4.4.20.1. Technicians who are evaluated under the QA program will complete the QA Orientation Course prior to the first evaluation. QA will teach the course, with emphasis on the purpose of the program, procedures, error criteria, and grading standards. QA will schedule the course and ensure completion is documented in the technician's CFETP.

8.2.4.4.21. Assist the Training Flight and work center supervisors in identifying training requirements.

8.2.4.4.22. Participate in the review of CFETPs and task coverage.

8.2.4.4.23. Review all unit-managed lesson plans for adequacy and technical accuracy.

8.2.4.4.24. Evaluate discrepancies recommended for deferral.

8.2.4.4.25. Assist with local exercises/inspections.

8.2.4.4.26. Manage a comprehensive unit evaluator-training program.

8.2.4.4.27. Manage the Deficiency Report (DR) program IAW TO 00-35D-54, *USAF Materiel Deficiency Reporting, Investigation and Resolution* and AFMAN 23-110V2.

8.2.4.4.28. Develop a management system that reflects required evaluations/inspections, completion dates and due dates.

8.2.4.4.29. Determine evaluation/inspection report content, format, distribution and routing procedures.

8.2.4.4.29.1. Forward copies of all proficiency evaluation reports monthly to the applicable MAJCOM Munitions Staff by the fifteenth of each month. Provide all AF s 2419, *Routing and Review of Quality Control Reports*, or equivalent to the MAJCOM LCAP office for critique and trend analysis.

8.2.4.4.29.2. Routing of reports will be determined locally, but as a minimum, all reports will be routed in-turn through the responsible NCOIC, Flight Chief, and Maintenance Superintendent to provide an opportunity for comment/review. Fail reports will also be routed to the group commander. QA will retain commented reports for 18 months minimum.

8.2.4.4.29.2.1. All AF Forms 2419**,** *Routing and Review of Quality Control Reports*, or equivalent, identifying major findings, technical data violations, unsatisfactory condition reports, direct safety violations and any "failed" ratings for nuclear certified tasks or nuclear certified equipment inspections will be routed through the Squadron Commander and Group Commander.

8.2.4.4.30. Produce evaluation/inspection reports that identify positive efforts as well as underlying causes of substandard quality. Make recommendations when applicable; however, ensure the evaluated/inspected activity remains free to choose the solution that best fixes the problem. For proficiency evaluations cover the following:

8.2.4.4.30.1. Strengths and weaknesses of the technician.

8.2.4.4.30.2. Document and categorize errors observed IAW **Table 8.6** and annotate with applicable references. Use established AQLs, including **Table 8.2**, and determine grade using criteria in **Table 8.5**.

8.2.4.4.30.3. An impact assessment for each error noted. The evaluator knows best the significance of each observed error and must translate that significance so management has a clear perspective of actions observed. The intent is to inform management of all observations and identify those errors that may require significant retraining versus those noted only for possible trend analysis.

8.2.4.4.30.4. If possible, use on-the-spot training.

8.2.4.4.31. Maintain a QAP for contracted maintenance functions, per AFI 63-124, *Performance-Based Service Acquisition.*

8.2.4.4.31.1. Establish minimum inspection intervals as prescribed in the applicable contract.

8.2.4.4.31.2. Perform additional surveillance inspections in response to customer complaints or others as deemed necessary.

8.2.4.4.32. Provide a monthly summary. Distribute to the applicable group/wing CC, and appropriate activities in the logistics complex. As a minimum, the monthly narrative report must contain an analysis of the QA results, a summary of major errors, and recommendations for improvements. Forward copies of monthly summary to applicable MAJCOM by the fifteenth of each month.

8.2.4.4.33. Ensure technicians and shop chiefs are re-critiqued if the MAJCOM LCAP determines an error was categorized incorrectly or is invalid. Do not change a technician's evaluation record from a Satisfactory or higher rating to an Unsatisfactory rating; in this case only conduct the re-critique.

8.2.4.4.34. Develop procedures for and coordinate the Group unsatisfactory/fail board for all nuclear maintenance, mate/demate, handling, and final assembly test tasks. A board will be held for all unsatisfactory/fail ratings earned during personnel evaluations on certified nuclear weapons tasks (reference AFI 21-204) due to a major error or the inability to correctly or safely perform the task without excessive outside intervention or assistance (exhibiting a lack of technical proficiency). The Group Commander or deputy may direct unsatisfactory/fail boards for any other evaluation/inspection at their discretion.

8.2.4.4.34.1. The board will, as a minimum, include:

8.2.4.4.34.1.1. Chair—Group Commander

8.2.4.4.34.1.2. GP Superintendent.

8.2.4.4.34.1.3. Applicable SQ/CC.

8.2.4.4.34.1.4. Applicable SQ OO or MX SUPT.

8.2.4.4.34.1.5. QA OIC, Superintendent, or Chief Evaluator.

8.2.4.4.34.1.6. QA evaluator(s) who awarded the rating.

8.2.4.4.34.1.7. Applicable Trainer/Instructor.

8.2.4.4.34.1.8. Applicable Section OIC or NCOIC and/or Flight CC or Supt.

8.2.4.4.34.1.9. Applicable individual and/or team.

8.2.4.4.34.2. The board will, as a minimum, cover:

8.2.4.4.34.2.1. Overview of the unsatisfactory/failed condition

8.2.4.4.34.2.2. Technician(s)/team evaluation history

8.2.4.4.34.2.3. Unit's related unsatisfactory/fail ratings for trend analysis

8.2.4.4.34.2.4. Possible underlying causes

8.2.4.4.35. Perform nuclear inspections/evaluations IAW the minimum requirements listed in **Tables 8.1**, **8.2** and **8.4**.

8.2.4.4.36. Perform cruise missile inspections/evaluations IAW the minimum requirements listed in **Tables 8.1**, **8.2** and **8.4**. The percentages for PEs and Quality Verification Inspections (QVIs) apply to scheduled maintenance only (not to unscheduled operations performed as a result of failed launcher/pylon test, etc.). A

sampling of unscheduled operations should be evaluated as the opportunity arises. Tools, test, tiedown, handling, and support equipment will be inspected, as applicable to the task, during all evaluations/inspections.

8.2.4.4.37. Perform ICBM inspections IAW with the minimum requirement listed in **Tables 8.1**, **8.2** and **8.4**.

8.2.4.4.38. If unable to meet any of the required minimum sampling requirements in **Table 8.1**, **8.2**, **8.3**, or **8.4** for a quarter, QA will document a Memo for Record stating which minimum requirements were not met, what the actual percentages evaluated were for that quarter, and an explanation why the minimums were not met. This memo will be maintained by QA for 1 year. These "missed" evaluations/inspections must be made up during the next quarter whenever possible. If QA does not meet any of the required minimum sampling requirements for 2 consecutive quarters, the QA Superintendent will provide the MAJCOM LCAP office with a Memo for Record stating which minimum requirements were not met, what the actual percentages evaluated were for that period, and an explanation why the minimums were not met. This memo will also be maintained by QA for 1-year.

8.2.5. Quality Assurance OIC/Superintendent (QA OIC/SUP) Responsibilities. Is responsible to the applicable group or wing CC for ensuring functions listed below are performed and will:

8.2.5.1. Make recommendations to the Group CC to enhance the quality of munitions operations.

8.2.5.2. Develop the QAP using the MAJCOM-approved QA database and provide supervisors access to QAP data through the LAN.

8.2.5.3. Notify the appropriate agencies when deficiencies are found in (AF, Lead Command, WG, and GP) instructions.

8.2.5.4. Review related local OIs, forms, and profile Job Standards (JST) annually for accuracy and necessity. Document these reviews.

8.2.5.5. Ensure self-inspection programs in the group have current functional checklists prior to units running them.

8.2.5.6. Ensure management inspections are performed.

8.2.5.7. Coordinate on all requests for locally designed tools or equipment. QA must maintain records of all approved locally designed tools and equipment, including pictures or drawings and a description of the use for each item. (If pictures, drawings, or authorizations are not available, they will be re-accomplished.) If a TO or the MMHE focal point website located at **https://peonet.eglin.af.mil/mmhe/**, contains the option of a locally designed tool, QA does not need to coordinate or maintain the records on that tool as long as the tool remains approved by the TO.

8.2.5.8. Review IPI, Visual Inspection, and KTL/RIL listings annually and provide copies of approved lists to all affected organizations.

8.2.5.8.1. The KTL must cover tasks that are complex and those affecting safety of flight. All maintenance actions/functions listed on the KTL require mandatory call-in to QA each time the maintenance action/function is accomplished.

8.2.5.9. Ensure Acceptable Quality Levels (AQL) standards are developed for tasks/items on the key tasks and routine inspection lists.

8.2.5.10. Ensure agendas and presentations are compiled for the QA summary.

8.2.5.11. Manage the Activity Inspection Program IAW this chapter (In ALC/AMARC, MXW QA Chief).

8.2.5.12. Designate in writing the Chief Inspector. (ARC only: may elect to appoint a Chief Inspector or distribute these responsibilities to individual inspectors as appropriate).

8.2.5.12.1. Designate individuals to be the TODO (unless contracted) and PIM.

8.2.6. Chief Inspector Responsibilities. Is responsible to the QA OIC/SUPT for ensuring functions listed below are performed and will:

8.2.6.1. Use assigned inspectors to provide on-the-spot assistance to correct problems.

8.2.6.2. Spot-check TOs, inspection work cards, checklists, job guides and WUC manuals during evaluations and inspections for currency and serviceability.

8.2.6.3. Assist MDSA with investigations and studies.

8.2.6.4. Review QA database and inspection summary inputs for accuracy and content.

8.2.6.5. Initiate actions when additional attention is required to resolve adverse maintenance trends or training problems. Actions include preparing crosstell information bulletins and messages for GP/CC release to other similarly-equipped units and the Lead Command.

8.2.6.6. Review and compile inputs annually for the IPI listing. A copy of the approved IPI listing must be kept and annotated with the signature and date of review/certification.

8.2.6.7. Review major discrepancies for trends and perform root cause analysis quarterly. If frequency or severity of identified discrepancies warrant inclusion of that item into a specific TO governing an action or inspection, "the QA Chief Inspector must coordinate with owning workcenter to ensure an AFTO Form 22 is submitted or a local work card is developed, local page supplement or checklist IAW TO 00-5-1.

8.2.6.8. Establish procedures for inspectors to document completed inspections.

8.2.6.9. Review QA data monthly to identify high-missed carded items from PEs and QVIs (ANG quarterly). A high-missed carded item is defined as any work card or technical order item missed at least three times during a one-month period. Ensure MDSA reviews items to identify any relationships with repeat, recur and CND trends. Include this data in the monthly QA summary.

8.2.6.10. Establish a work center safety program IAW AFOSHSTDs, AFI 91-202, and other applicable safety directives.

8.2.6.11. Monitor, track, and ensure occupational safety, fire prevention, occupational and environmental health requirements, are accomplished for assigned personnel. Ensure AF Form 55, *Employee Safety and Health Record*, is documented IAW AFI 91-202.

8.2.6.12. Enforce strict adherence to technical orders and management procedures. Advocate use of the TO improvement program, and ensure work center TO files are maintained according to T.O 00-5-1.

8.2.6.13. Ensure housekeeping, safety, security and environmental control standards are followed.

8.2.6.14. Ensure Aerospace equipment and equipment forms and MIS documentation are completed, accurate and accomplished for each shift. Ensure equipment/SE status is accurately reflected in both the maintenance forms and the MIS.

8.2.6.15. Ensure MIS and equipment forms are documented by the individual completing the task.

8.2.6.16. Evaluate maintenance quality, personnel qualifications, and training of assigned personnel.

8.2.6.17. Review and recommend changes for maintenance tasks requiring IPIs. Forward the IPI listing to Flight CC/Chief.

8.2.6.18. Ensure TMDE maintenance and calibration requirements are accomplished.

8.2.6.19. Develop and manage work center training program. Evaluate personnel, track training requirements and ensure training documentation is accurate.

8.2.6.20. Review, evaluate, and take corrective action based on QA and other inspection reports.

8.2.6.21. DELETED.

8.2.6.22. Review current and updated publications and inform personnel of any significant changes. Ensures work center publications are current and required publications are available to meet work center needs.

8.2.6.23. Ensure section personnel coordinate all flight line maintenance with the flight line expediter.

8.2.6.24. Ensure personnel and equipment are identified and prepared to deploy for tasking IAW AFI 10-403, AFI 36-3802, and AFMAN 10-401.

8.2.6.25. Recommends quality assurance personnel for addition to the Special Certification Roster (SCR).

8.2.6.26. Manage the Bad Actor Program according to T.O. 00-35D-54, *Deficiency Reporting*.

8.2.7. Quality Assurance Inspector/Quality Assurance Specialists (QAS); **i**s responsible to the Chief Inspector for ensuring functions listed below are performed and will:

8.2.7.1. Evaluate aerospace maintenance tasks and inspections.

8.2.7.2. Perform KTL/RIL inspections.

8.2.7.3. Enter inspection and evaluation reports into the appropriate QA database.

8.2.7.4. Perform QA review of Dull Swords, Unsatisfactory Reports, TCTOs, Master Change Logs, OTIs, modification proposals, DRs, AFTO Forms 22 and local OIs.

8.2.7.5. Provide training/instruction as applicable to address deficiencies identified during the evaluation/inspection.

8.2.7.6. Evaluate forms documentation and MIS inputs.

8.2.8. Product Improvement Manager (PIM). The PIM has overall responsibility for managing the PIP. The PIM promotes deficiency reporting and provides sound PIP based on inputs from maintenance activities. The PIM emphasizes and promotes product improvement and ensures maintenance personnel are familiar with them by circulating flyers/newsletters, visiting commander's calls, presenting the program at maintenance orientation briefings and making routine visits to maintenance areas.

8.2.8.1. Product Improvement Program (PIP). Combined with daily maintenance data reporting, the PIP includes the following programs:

8.2.8.1.1. Deficiency Reporting (DR). The process of reporting prescribed by T.O. 00-35D-54 and AFMAN 23-110v2 (warranty information is located in AFMAN 64-110). Responsibilities include:

8.2.8.1.1.1. Monitoring the DR process to ensure items are properly loaded in the MIS database.

8.2.8.1.1.2. Ensuring DRs are submitted using Joint Deficiency Reporting System (JDRS) at **https://jdrs.mil**.

8.2.8.1.1.3. Reviewing the DR prior to releasing to the ALC or AFMC Maintenance Wings IAW TO 00-35D-54.

8.2.8.1.1.4. Verifying each report against pertinent publications and assign the appropriate precedence and category.

8.2.8.1.1.5. Screening reported deficiencies for possible unit-unique contributing factors. Initiate management action on unsatisfactory conditions resulting from local procedures or a lack of technical capability.

8.2.8.1.1.6. Performing/coordinating a technical review of DRs returned to the unit without an adequate response. Determine whether to resubmit with additional information.

8.2.8.1.1.7. Performing exhibit-processing oversight by coordinating with the ALC and the LRS to ensure proper exhibit control and handling.

8.2.8.2. Technical Order Improvement Program (AFTO Form 22)/Civil Engineering Manual (CEM) change requests. Responsibilities include:

8.2.8.2.1. Reviewing all AFTO Forms 22 and CEM change requests for completeness and technical accuracy. Consult with submitting workcenter to resolve any discrepancies discovered during review. Ensure they are properly processed IAW T.O. 00-5-1.

8.2.8.2.2. Ensuring control numbers are assigned and forward all AFTO Forms 22 via e-mail transmission or Joint Computer-Aided Acquisition Logistics Support (JCALS) to the appropriate action agency.

8.2.8.2.3. Maintaining an AFTO Form 22 suspense file. Note: An Approved AFTO Form 22 does not provide authority to deviate from current TO procedures. TO changes must be posted to implement approved AFTO Forms 22.

8.2.8.2.4. Conducting a technical review of disapproved AFTO Forms 22 to determine whether to resubmit with additional information. Consider for submission to technical working groups (e.g., PIWG, MDS maintainer's conferences). Dispose of disapproved AFTO Forms 22 IAW the AF Records Disposition Schedule located at **https://www.my.af.mil/gcss-af61a/afrims/afrims/rims.cfm**.

8.2.8.2.5. Briefing disapproved AFTO Forms 22 along with the reason at the quarterly QA meeting.

8.2.8.3. Modification Management. A modification is a change to the operation, use, interface or appearance of AF equipment. All modifications to AF nuclear munitions or their associated support/training equipment shall be nuclear certified IAW AFI 91-103, *AF Nuclear Safety Design Certification Program*. In addition to the requirements contained in AFI 63-131, *Modification Program Management*, QA or the designated PIM will:

8.2.8.3.1. Conducting a technical review of the approved modification instruction, Retrofit Order (RO) Master Change Log, TCTOs and Master Change Log changes. Determine:

8.2.8.3.1.1. Whether unit has current and compatible technical orders.

8.2.8.3.1.2. Evaluate modification instruction, RO, TCTO and Master Change Log tasks in progress to ensure quality maintenance and track progress.

8.2.8.3.1.3. Coordinate TCTO, Master Change Log and modification management actions for ICBM systems with Maintenance Operations Flight and applicable MMXS/MOS Flight(s). Ensure all modifications are properly annotated on equipment and equipment records as required.

8.2.8.3.1.4. If the modification instruction, RO, TCTO or Master Change Log will/must interface with or is contingent upon a separate modification instruction, RO, TCTO or Master Change Log being completed.

8.2.8.3.1.5. If the modification instruction, RO, TCTO or Master Change Log affects nuclear certified items or equipment, as defined in AFI 91-103, Air Force Nuclear Safety Design Certification Program, forward a copy to the unit Weapon Safety Manager for review.

8.2.8.4. Maintenance Assistance. Manage the program in accordance with T.O. 00-25-107. Review all maintenance assist requests for completeness, accuracy and applicability. Inform applicable workcenters any problems discovered during this review and resolve prior to submission.

8.2.8.5. Reliability and Maintainability (R&M). At the core of R&M efforts are technical working groups (e.g., PIWG, users' conferences). Assessing unit R&M concerns involves several processes. The Product Improvement Manager (PIM) will:

8.2.8.5.1. Manage program IAW AFI 21-118.

8.2.8.5.2. Review all reported R&M deficiencies and determine those caused by unit factors and local conditions versus those beyond the unit's control.

8.2.8.5.3. Review available maintenance and supply trends and high work hour consuming repairs.

8.3. QA Evaluation and Inspection Plan. The Quality Assurance OIC/Superintendent is responsible for developing and implementing an effective product that captures all mandatory requirements. The product will be formatted to assist QA inspectors in readily identifying and tracking all minimum inspection and evaluation requirements and percentages. QA will review and update the plan at least quarterly. QA develops an evaluation and inspection plan showing areas, types and numbers of inspections and evaluations that must be conducted. When developing the plan, QA will:

8.3.1. Address areas of concern identified by maintenance managers and the WWM.

8.3.2. Tailor the plan for each squadron, flight or section.

8.3.3. Review, formalize and distribute the inspection or evaluation plan.

8.3.4. Attend applicable scheduling meetings to determine QA evaluation and inspection requirements.

8.3.5. Include input from the Operations Officer/MX SUPT to ensure evaluation efforts are focused on specific known or suspected problem areas.

8.3.6. Coordinate munitions TCTO and modification management actions with Munitions Control, Plans and Scheduling, MASO, and Maintenance sections.

8.4. Unit QA Evaluation Criteria. Units will use, as a minimum, Air Force approved checklists for use at the unit level. MAJCOMs or units may supplement with additional/local checklists. For evaluations of technician proficiency and equipment condition, the applicable technical order is the evaluation standard.

8.5. Establishing Acceptable Quality Levels (AQL/Standards). An AQL denotes the maximum allowable number of minor findings that a KTL task, RIL task, process or product may be charged for the task to be rated "Pass." It must be strict enough that the task, process or product meets an acceptable level of quality, but isn't so strict that a "pass" rating is unattainable. The AQL is derived/revised from QA performance-based data. Units must develop procedures for determining minimum AQLs delineating an "attainable" quality level. MAJCOMs may develop standardized AQLs. These levels shall comprise the AQL standards for the weapon system RILs. AQLs must be reviewed at frequencies determined by the Group/CC.

8.5.1. Failure to meet an AQL/standard results in the task being rated as "Fail".

8.5.2. AQLs/baselines for nuclear maintenance, cruise missile maintenance and nuclear weapons handling tasks and ICBM Maintenance are defined below and shall not be adjusted:

8.5.2.1. Establishing Nuclear Weapons Specific Acceptable Quality Levels (AQL) Standards. Maximum AQLs for Personnel Evaluations (PE) on specific tasks are identified in **Table 8.2**. A nuclear weapon maintenance, weapon mate/demate or final assembly test task is defined as a task performed on a single weapon or single piece of launch gear (i.e., launcher, pylon, etc.). A weapon handling task is defined as the handling of a single weapon, single double-stack or a group of weapons on a single piece of launch gear. Maintenance or handling operations on multiple weapons/launch gear/double-stacks will be evaluated as separate tasks but may be captured on one report provided the AQL per task is not exceeded. For example, the transfer of 15 double-stacks may be evaluated under one report, but the AQL may not be exceeded for each double-stack.

8.6. QA Grading. Inspections and evaluations performed (e.g., PE, QVI) will be rated "PASS/FAIL" or equivalent rating system. These will include over-the-shoulder evaluations of unit QA inspectors. For PEs that clearly exceed standards, evaluators may add a "Highly Qualified" rating. QA shall publish a final report of findings from the evaluation for distribution to all evaluated organizations. Use information in **Table 8.5** and **8.6** to determine grades for evaluations.

8.6.1. Definitions of major and minor. For specific definitions use **Table 8.6**.

8.6.1.1. A major finding is defined as a condition that would endanger personnel, jeopardize equipment or system reliability, affect safety of flight, compromise security standards, violate weapon system safety rules (WSSR), or warrant discontinuing the process or equipment operation.

8.6.1.2. A minor finding is defined as an unsatisfactory condition that requires repair or correction, but does not endanger personnel, affect safety of flight, jeopardize equipment reliability or warrant discontinuing a process or equipment operation.

8.6.2. Document and categorize errors observed IAW **Table 8.6** and annotate with applicable references. Use established AQLs, including **Table 8.2**, and determine grade using criteria in **Table 8.5**.

8.6.2.1. Document an impact assessment for each error noted. The evaluator knows best the significance of each observed error and must translate that significance so management has a clear perspective of actions observed. The intent is to inform management of all observations and identify those errors that may require significant retraining versus those noted only for possible trend analysis.

8.7. Proficiency Evaluations/Inspections. Quality Assurance personnel help ensure quality maintenance by conducting and documenting proficiency evaluations/inspections. The following types of evaluations, inspections and observations support the QA program: Personnel Evaluations (PEs), Quality Verification Inspections (QVIs), Hardware Equipment Inspection (HEI), Hardware Acceptance Inspection (HAI), Special Inspections (SIs), Management Inspection (MIs), Detected Safety Violation (DSVs), Technical Data Violations (TDVs), Unsafe Condition Reports (UCRs) and when directed, other inspections.

8.7.1. Personnel Evaluations (PE). A PE is an over-the-shoulder evaluation of a maintenance action, inspection, or training conducted/performed by an individual or team. Evaluators conduct proficiency evaluations on personnel involved in a maintenance task or instructing a

technical task (*on-equipment task performances governed by a technical order training reference*). Observations will encompass safety, security, tool usage, general maintenance practices, technical order usage, nuclear surety, etc. Report observations in the same general manner as PPEs. Use PEs to evaluate job proficiency, degree of training and compliance with technical order, determine the accuracy and efficiency of technical procedures, assess compliance with technical orders and other directives, accurately document results of evaluations. Individuals performing, supervising or evaluating maintenance tasks are subject to a PE. Proficiency evaluations include: Evaluator Proficiency Evaluations (EPE), Trainer Proficiency Evaluations (TPE) and Personnel Proficiency Evaluations (PPE). Rate PEs "Pass" or "Fail" based on established AQLs/standards. Document the PE on AF Form 2419, *Routing and Review of Quality Control Report.* Ensure a PE is accomplished on all technicians who perform maintenance. ***NOTE:*** MAJCOMs will determine the frequency of PEs.

8.7.1.1. Evaluators, , must stop, correct, alert appropriate agencies and render an evaluation report for any of the following errors (actual or possible): violations of weapon system safety rules (WSSR) (AFI 91 series), code handling violations, violations of Two-Person Concept, significant security violations, individual is not trained/certified on the task being performed, or safety errors that could result in serious injury to personnel, failure to utilize technical data during the maintenance process and errors that could result in potential/imminent serious equipment damage. This evaluator intervention applies to any technician on any task.

8.7.1.2. When performing a PPE, the QA inspector briefs the individual or team IAW **paragraph 8.9.4**. The PPE may include an evaluation of the individual's training records, tool box, TMDE and TOs. The evaluation starts when the individual or team begins the task, or portion of the task to be evaluated, and is completed when the job or previously determined portion of the task is finished. Limit the PE to the same inspection card deck or technical orders required for the job. When performing an evaluation, the inspector determines if the technician or supervisor performed the job IAW technical order and appropriate instructions. Provide feedback to the individual or team and supervision upon completion. The types of PEs are:

8.7.1.2.1. Individual Evaluations. This is a QA over-the-shoulder evaluation of a technician or supervisor performing a technical task. The evaluator may start or stop the task evaluation at any step. PEs may be performed on individuals working alone or as part of a team. Evaluations must accurately assess the proficiency of each individual under evaluation.

8.7.1.2.2. Team Evaluations. This is a QA over-the-shoulder evaluation of technicians and supervisors performing a team task. A team task is one requiring more than one person to complete the task (e.g., refueling, ECM pod up/down loading, bomb build-up, towing, weapons maintenance, pylon installation, brine chiller replacement). The evaluator may start or stop the task evaluation at any step.

8.7.1.2.3. Trainer Proficiency Evaluation (TPE). A TPE will be conducted on each section's designated trainer(s) semiannually. The TPE is an over-the shoulder evaluation of the trainer, performed while the trainer is conducting qualification/certification training. TPEs are synonymous to an EPE performed on

QA and are used to verify technical accuracy and completeness of training provided, not the proficiency of the trainees themselves.

8.7.1.2.4. Evaluator Proficiency Evaluations (EPE). The QA OIC/SUPT or Chief Inspector knowledgeable of applicable task requirements will perform EPEs on QA inspectors IAW **Table 8.4**. Each QA inspector must pass the EPEs prior to performing unsupervised evaluations and inspections. Additionally, QA inspectors who fail or are overdue their semi-annual EPE will be restricted from performing evaluations and inspections unsupervised. EPEs will be documented on an AF Form 2419, or equivalent, in the same manner as other PEs. All EPEs must be tracked in the MIS or Lead Command-approved QA database. Additional requirements for QA evaluators who are also nuclear weapons certifying officials are located in AFI 21-204.

8.7.1.3. Rating Personnel Evaluations. QA rates each evaluation based on AQLs/standards. A failed PE rating means the specific task was not performed within the established AQL/standards. The rating applies only to the specific task evaluated and not to other tasks that a technician or supervisor is qualified to perform. Upon completion of a failed evaluation, the evaluator must provide a critique as soon as practical and make retraining recommendations to the workcenter supervisor. For the specified tasks in **Table 8.2**, use the identified AQLs and the criteria in **Table 8.5** to determine ratings. For all other tasks, determine ratings as follows:

8.7.1.3.1. Pass: Number of discrepancies does not exceed AQL/standards.

8.7.1.3.2. Fail: An evaluation that results in any of the following:

8.7.1.3.2.1. Number of discrepancies exceeds the established AQL/standards.

8.7.1.3.2.2. A technician fails to detect a major discrepancy.

8.7.1.3.2.3. A technician fails to comply with a technical order step that could affect the performance of the equipment involved or cause injury to personnel.

8.7.1.3.2.4. A technician or team cannot correctly or safely do a task without excessive outside intervention or assistance.

8.7.1.3.2.5. Training/certification not documented.

8.7.1.3.2.6. A technician commits a safety violation. See definition of DSV.

8.7.1.3.2.7. A technician fails to document maintenance actions in appropriate equipment records.

8.8. General Proficiency Evaluation Guidelines:

8.8.1. Quality Assurance evaluators must be qualified on the CFETP tasks they evaluate.

8.8.2. To the maximum extent possible, before conducting a PPE, EPE, or a TPE, verify the technician/instructor is qualified and, if necessary, certified in the CFETP/AF Form 2435, *Load Training and Certification document*, to perform/instruct the maintenance task. Verification must be completed before the grade is rendered.

8.8.3. When selecting tasks for evaluation, evaluators must ensure they observe a variety of tasks--different equipment and different maintenance actions for each technician.

Additionally, QA must ensure evaluations cover all weapon systems in which a technician is qualified.

8.8.4. Inspect personnel on any CFETP task included in their work package (scheduled or unscheduled).

8.8.5. Whenever possible, evaluators will have their own copy of technical order available for the task being evaluated.

8.8.6. Use no-notice evaluations whenever possible. QA will attempt to minimized impacts on operational maintenance while scheduling evaluations.

8.8.7. Quality Assurance may perform evaluations on trainers or training facilities.

8.8.8. QA may make up one part of the Two-Person team while performing nuclear weapons evaluations.

8.8.9. A nuclear certification is considered a normal evaluation in regards to all the evaluation rules provided in this instruction. Follow established Mx Group routing procedures for certification reports.

8.8.10. Evaluations will only be accomplished while observing actual task performance. Evaluators will not be part of the task being performed.

8.8.11. QA evaluations on nuclear weapons certifiable tasks identified in **Table 8.2** must be performed by 7-level or above, JQS qualified evaluators.

8.8.12. Conduct PPEs, as a minimum, on a calendar year, quarterly basis. Evaluate each technician quarterly.

8.8.12.1. Use the following for evaluation eligibility:

8.8.12.1.1. For technicians arriving from a permanent change of station or assignment who do not require certification, PPE eligibility starts the first full quarter after the initial interview is completed. Initial interview will be documented in Training Business Area and consist of the following as a minimum: purpose of the QA program, procedures, error criteria, and grading standards.

8.8.12.1.2. Trainees may receive PPEs to verify adequacy of training.

8.8.13. Conduct at least one door-to-door PPE per production work center each quarter. A door-to-door PPE includes pre-task, task and post-task performance actions.

8.9. Guidelines for conducting Nuclear Weapons, Cruise Missile, Reentry System/Vehicle, and ICBM Proficiency Evaluations:

8.9.1. Evaluators must afford reasonable opportunity for maintenance technicians to detect a defect or deficiency.

8.9.2. Evaluation will be accomplished only while observing actual task performance or inspecting equipment or documentation.

8.9.3. Evaluators will brief all personnel to be evaluated prior to the start of the evaluation. If a task is already in progress, notify the individuals being evaluated that they are under evaluation and brief them as soon as possible. During the briefing, the evaluator must advise the technicians of the following:

8.9.3.1. All personnel who perform, supervise or inspect maintenance actions on weapons, weapon

8.9.3.2. Technicians will receive quarterly evaluations starting the first full quarter following the first completed nuclear certification on the individuals AF Form 2435. systems, warheads, support equipment and/or their components will be subject to evaluation.

8.9.3.3. Don't compromise safety or security.

8.9.3.4. During maintenance actions, do not consider the evaluator as the second person to satisfy buddy care requirements.

8.9.3.5. Take breaks during the evaluation, if needed.

8.9.3.6. Notify the evaluator of applicable information that could affect the task. This includes any Previously Complied With (PCW) task(s)/step(s) which could affect the task being evaluated. The evaluator must be notified of any policy, procedure or configuration changes, or simulations affecting the evaluation. Technician/Team may be charged with an error for TO requirements that are omitted during the task performance that have not been identified as PCW prior to the evaluation critique.

8.9.3.7. The technician is responsible for tasks and related actions. The evaluator's presence does not shift this responsibility.

8.9.3.8. The technician/team may ask for technical help from personnel/agencies normally available in the conduct of day-to-day maintenance. The evaluator conducting the evaluation should be asked only as a last resort and when all other avenues of help have been exhausted

8.9.3.9. The evaluator must be notified of the start and completion of the task, and any delays that occur.

8.9.3.10. Evaluator may ask questions to determine the individual’s knowledge of the task under evaluation. Questions of this type should be deferred to the end of the operation. Individuals may refer to technical guidance or use their normal supervisory chain of command when answering questions.

8.9.3.11. Evaluators will stop a task if conditions are detected that would jeopardize personnel or weapon safety, security, weapon system reliability, and/or cause equipment damage. The evaluator may only stop the task after all reasonable opportunities to detect the deficient condition have passed.

8.9.4. During the TPE briefing, the evaluator must advise the instructor of the following additional items:

8.9.4.1. The instructor must prevent/immediately correct any of the following: WSSR violations, code compromises, Two-Person Concept violations, significant security violations or safety errors which could result in serious injury to personnel, failure to use technical orders during the maintenance process and any error which could result in potential/imminent equipment damage.

8.9.4.2. The instructor must correct other errors before completing the training session. The training session is considered complete when the instructor critiques the student's performance.

8.9.4.3. Evaluators will consider the instructor's degree of control over the trainee.

8.9.4.4. Evaluators will not generate an evaluation report on the trainees. Errors committed by JQS qualified technicians during activities performed outside the scope of the training objective may be documented.

8.9.4.5. The trainer must prevent and immediately correct any weapons systems safety rule, two-person concept or security/safety violations which could result in damage to components/ equipment or injury to personnel.

8.9.4.6. The trainer must correct trainee errors before completing the training session. This correction may include anything from verbal feedback to re-accomplishment of the erroneous procedures.

8.9.4.7. Evaluators will consider the trainer's familiarity with procedures, use of and adherence to technical orders and lesson plans, verbal skills, ability to clearly and precisely describe procedures, and the degree of control over the trainees.

8.9.4.8. Evaluators will not generate an evaluation report on the trainees. The evaluation will focus solely on the trainer's proficiency and efficiency of training delivered. Errors committed by the trainees will have no impact on the evaluation unless the trainer does not detect and correct the errors.

8.9.4.9. A TPE will be rated "fail" when the trainer does not detect, correct, and provide re-training for a the following errors: violations of weapon system safety rules (WSSR) (AFI 91 series), code handling violations, violations of Two-Person Concept, significant security violations, individual is not trained/certified on the task being performed, or safety errors that could result in serious injury to personnel, failure to utilize technical data during the maintenance process and errors that could result in potential/imminent serious equipment damage. Additionally, the evaluation will also be rated a "fail" if an incomplete training process takes place such as failing to instruct critical portions of the task.

8.9.4.10. During task evaluation; the evaluator must detect and correct all errors. Select the best option available to correct the situation. It may be advantageous to correct minor errors during the critique phase; other errors may warrant prompt correction. Consider giving technicians the opportunity to make decisions on courses of action on their own using the resources available to them.

8.9.4.11. For each error, conduct training to the level necessary to ensure the technician understands the circumstances in question. The evaluator may be prohibited from conducting training by time, resources, attitudes or a combination of factors. If prohibited, note the situation in the report and defer the required training action to the section NCOIC. The evaluator may recommend the technician should not perform the task until retrained.

8.9.4.12. DELETED.

8.9.4.13. If in a position to detect an error, TCs will be charged with an error that goes undetected or uncorrected. An undetected or uncorrected error is one that is not caught or corrected by the team prior to completion of the operation. For example; an error committed by a TM that is caught later by the TC or another TM will not be charged against the TC. If the evaluator stops the operation, the error will be documented against the TM committing the error and, if in a position to detect the error, the TC.

8.9.5. All personnel who perform visual inspections, IPIs, or provide technical help IAW AFI 21-202 and 21-204 will be included in all evaluations and on evaluation reports.

8.9.6. Each technician will be evaluated on at least four different certified tasks per year. Evaluations will be spread one per quarter through the year in order to attain a representative sampling of system knowledge and job proficiency. The year begins when the technician first becomes certified on a task. Initial task certifications will not be credited towards annual evaluations. For individuals certified on less than four tasks, quarterly evaluations may be performed on the same tasks. 2M0XXs may be evaluated on qualified tasks.

8.9.7. Following the evaluation, the evaluator must critique the technician(s), instructor(s), and/or evaluator(s) on the entire task as soon as practical. The evaluator must inform the workcenter supervisor when a task is rated "Fail/Unsatisfactory" or when the results have not been determined. Technicians will not perform the evaluated task again until officially critiqued. The evaluator must cover the following in the critique:

8.9.7.1. Explain each error; include who received it, category, mission impact and correct procedures

8.9.7.2. Review strengths and weaknesses

8.9.7.3. Recommend more efficient/effective methods of task accomplishment

8.9.7.4. Exchange ideas and techniques

8.9.8. QA Intervention. Evaluators will intervene and stop a task if conditions exist that would jeopardize personnel or weapon safety, security, weapon system reliability, and/or cause equipment damage or after determining individuals under evaluation cannot correctly or safely perform a task without excessive outside intervention or assistance (exhibiting a lack of technical proficiency). The evaluator may only stop the task after all reasonable opportunities by those under evaluation to detect or correct a deficient condition have passed. This evaluator intervention applies to any technician on any task.

8.9.8.1. After stopping the task, the QA evaluator(s) will:

8.9.8.1.1. Notify the bay chief or critical task supervisor (as applicable) and the Section NCOIC that the operation has been stopped.

8.9.8.1.2. In conjunction with the technician's Section NCOIC, assess whether the unit will:

8.9.8.1.2.1. Replace the technician(s) on the spot.

8.9.8.1.2.2. Supervise the technician(s) finishing the task (does not apply if leadership's decision is to decertify IAW AFI 21-204). The supervisor must be qualified on the task.

8.9.8.1.2.3. Terminate the task.

8.9.8.2. DELETED.

8.9.8.2.1. DELETED.

8.9.8.2.2. DELETED.

8.9.8.2.3. DELETED.

8.9.8.3. DELETED.

8.9.8.4. DELETED.

8.9.9. DELETED.

8.9.9.1. DELETED.

8.9.9.2. DELETED.

8.9.9.3. DELETED.

8.9.9.3.1. DELETED.

8.9.9.3.2. DELETED.

8.9.9.3.3. DELETED.

8.9.9.3.4. DELETED.

8.9.10. Award an overall rating for the entire maintenance process using guidance in **Table 8.5**.

8.9.10.1. Notify the technician's work center and FLT CC/SUPT of any unsatisfactory rating.

8.9.10.2.1. Identify the substandard performance that contributed to the unsatisfactory rating.

8.9.10.2.2. Identify task(s) that should not be performed unsupervised.

8.9.11. Technicians/instructors who commit major errors described in **Table 8.6** at anytime during the maintenance process will be rated unsatisfactory.

8.9.12. Conduct TPEs to verify the technical accuracy and completeness of training. Conduct a minimum of one TPE semi-annually, not to exceed 6 months**,** on each nuclear weapons trainer/instructor. Use TPEs to sample both initial qualification and recurring training.

8.10. Quality Verification Inspections (QVI). A QVI is an inspection of equipment condition, or a process, an assessment following an inspection, servicing or repair action, or verification that a technician or supervisor properly completed an inspection or repair action. QVIs shall not be conducted after equipment operation when such operation could invalidate indications of proper job accomplishment. Limit QVIs to the same inspection card deck or technical orders required for the job. Normally this inspection does not require disassembling parts, removing stress panels or like actions. The QVI report should reflect deficiencies by the individual who accomplished the task and identify specific discrepancies.

8.10.1. Rating QVIs. Rate QVIs "pass" or "fail" by comparing the number of discrepancies with the established AQLs/standards.

8.10.1.1. Pass: Number of discrepancies does not exceed established AQL/standard.

8.10.2. Fail: An inspection that results in any of the following:

8.10.2.1. A technician failed to detect a major discrepancy after completing an inspection, work card or task requirement.

8.10.2.2. Number of minor discrepancies exceeds the established AQL/standard.

8.10.2.3. A technician is not signed off in training records as task qualified.

8.10.3. Document the QVI in the approved QA database. Each QVI is chargeable to the technician or supervisor who performed the work.

8.10.4. For nuclear weapons, cruise missiles, reentry system/vehicle, and ICBM conduct QVIs based on **Table 8.1**, **8.2**, **8.3** and **8.4**, on each production work center to verify previously performed maintenance actions were properly accomplished. Use the same inspection work card or technical order the technician used for the task. Include checks of associated paperwork and document files when applicable.

8.11. Management Inspections (MI) (Activity Inspection/Functional Assessment and Special Inspections (SI)). Quality Assurance conducts inspections/assessments to provide managers an objective appraisal of mission capability and management effectiveness. Focus on efficiency, procedural compliance and adequacy of directives.

8.11.1. Special Inspections (SI). SIs are inspections not covered by QVIs, PEs or MIs. SIs may include, but are not limited to, Aerospace equipment and equipment forms inspections, document file inspections, CTKs, TO files, vehicle inspections, housekeeping, safety practices, FOD Program, etc. SIs may be condition, procedural or compliance oriented. The AF-approved QA database will be used to document special inspections. SIs can be non-rated. If rating a SI, rate them "Pass" or "Fail" based on established AQLs/standards.

8.11.2. Management Inspection (MI). Perform these inspections to follow-up on trends, conduct investigations or conduct research to get to the root cause of problems. Group/CC, SQ/CC or work center supervisors may request MIs. MIs may encompass trends and other inspection data; high component or system failure rates; suspected training deficiencies, and tasks outlined in TOs. Report MI results to the requester, and allow them latitude to explore options prior to implementing corrective actions. MIs can be non-rated and may be counted in QA trends. The MAJCOM-approved QA database will be used to document management inspections.

8.11.3. Prior to conducting inspections/assessments, determine the scope (what to inspect) and process (how to inspect it). Consider the following:

8.11.3.1. Using formalized checklists.

8.11.3.2. Basing inspections on regulatory requirements.

8.11.3.3. Using standard five-tier rating criteria.

8.11.3.4. Standardizing report content, format, distribution and routing procedures.

8.11.3.5. For nuclear weapons, cruise missiles, reentry system/vehicle, and ICBM conduct SIs based on **Table 8.1**, **8.2**, **8.3**, and **8.4** on each production work center to verify previously performed maintenance actions were properly accomplished. Use the same inspection work card or technical order the technician used for the task. Include checks of associated paperwork and document files when applicable.

8.12. Hardware/Facility Inspections. Conduct hardware inspections to determine condition of facilities and equipment. Hardware equipment inspections (HEI) and hardware acceptance inspections (HAI) make up the hardware inspection category. Technical Orders 00-20-1 and 00-35D-54, and Real Property (RP)/Real Property Installed Equipment (RPIE) instructions offer guidance on hardware inspections.

8.12.1. Conduct HEIs. Each unit possesses fixed and mobile hardware (for ***example:*** Hoists, Support Equipment (SE), training hardware, vehicles, LFs, MAFs, etc…). Determine the inspection frequency and conduct HEIs for such equipment.

8.12.2. Perform HAIs as needed to determine the condition of equipment received by the unit or the condition of equipment after local repair maintenance actions (i.e. hoists, hydraulic MULE, forklifts, tow vehicles, etc…). HAIs also determine the adequacy of depot-level/base level/contractor maintenance on equipment returned from overhaul or major modifications. Forward a copy of inspection reports applicable the applicable ALC equipment management office or on base organization. Also, send a copy to the applicable MAJCOM LCAP Office. HAIs are not a replacement for the DR program. When appropriate, generate deficiency reports.

8.12.2.1. DELETED.

8.13. Detected Safety Violations, Technical Data Violations, and Unsatisfactory Condition Reports (DSV, TDV and UCR). This category represents observed events or conditions with safety implications or technical violations not related to an inspection or evaluation and are considered unsafe, not IAW established procedures, or in the case of equipment, unfit to operate. The MAJCOM-approved QA database will be used to document DSV, TDV and UCRs. Report these errors detected outside the scope of any evaluation as a Detected Safety Violation (DSV), Technical Data Violation (TDV), or Unsatisfactory Condition Report (UCR), based on applicability. QA will track these types of reports for trend analysis in the monthly QA results. Follow PPE guidance for documenting these categories of reports.

8.13.1. QA must document any of the following conditions:

8.13.1.1. Detected Safety Violation (DSV). An unsafe act by an individual. The inspector must stop the unsafe act immediately. Do not document a separate DSV on an individual undergoing a personnel evaluation since the unsafe act automatically results in a "Fail" rating on the PE. Use the word "Safety" when a safety violation is committed during a PE. Render a DSV for significant violations of personnel or weapon system safety.

8.13.1.2. Technical Data Violation (TDV). An observation of any person performing maintenance without the proper technical order available and in use. The technician must have knowledge of all general directives associated with the job prior to performing the task. However, those directives need not be present at the job site. Do not document a separate TDV on an individual undergoing a PE, since failure to use technical orders

automatically results in a "Fail" rating. Document a TDV for failure to have technical order available and in use when performing maintenance.

8.13.1.3. Unsatisfactory Condition Report (UCR). An unsafe or unsatisfactory condition, other than a DSV, chargeable to the work center supervisor. UCRs may be documented even when it is not possible to determine who created the condition. Render a UCR for any unsatisfactory condition not reportable as a DSV/TDV. In these circumstances, do not provide individual ratings.

8.14. Unit QA Focus Areas. The purpose of the QA Program is to measure how well units meet or exceed standards. QA shall assess how well units are meeting compliance goals and look for areas of opportunity for improvement. The results of the evaluations and inspections are organized into a summary. The following areas must be addressed:

8.14.1. Compliance with and currency of TOs and directives. Personnel at all levels are responsible and accountable for enforcing this mandatory standard. Ensure all applicable TOs and directives are complete, current and used.

8.14.2. Munitions Systems and equipment forms documentation. Ensure forms used to document any maintenance related action for Aerospace equipment or equipment are documented according to 00-20 series TOs, specific equipment TO requirements and applicable command directives and supplements.

8.14.3. Munitions Systems and Equipment Inspections. Inspect munitions systems and equipment IAW TOs and directives.

8.14.4. Compliance and Management of Safety, Environmental and Housekeeping Programs. Personnel at all levels are responsible for minimizing risk to equipment and personnel.

8.14.5. Verify training is correctly documented and ensure individuals are qualified to perform evaluated tasks.

8.14.6. Unit Directed Programs. Verify units' programs are in compliance with local directives.

8.15. Key Task List (KTL). The KTL must cover tasks that are complex and those affecting safety of flight or operation. All logistics actions/functions listed on the KTL require mandatory call-in to QA each time the maintenance action/function is accomplished. QA evaluators will respond and perform an evaluation, but on a limited basis may waive the evaluation. QA must review and update the list at least annually to ensure it encompasses those maintenance actions/functions directly affecting quality of maintenance. MAJCOMs may identify KTLs.

8.16. Establish Routine Inspection List (RIL). The RIL is a list of routine inspections that are mandatory for QA to perform. QA consolidates OO/MX SUPT inputs, suggested changes, frequency, and scope and obtains GP/CC approval prior to adjusting the RIL. Once approved, tasks shall not be removed from the RIL without GP/CC approval. MAJCOMs may designate additional RIL requirements. The RIL must contain the following inspections, if applicable:

8.16.1. Equipment and equipment forms/MIS documentation.

8.16.2. Technical order use and currency.

8.16.3. CTK Program.

8.16.4. TMDE calibrations when the performing work center is not a PMEL IAW TO 00-20-14.

8.16.5. Housekeeping.

8.16.6. Vehicles (including AFTO Forms 244 and/or 1800-series).

8.16.7. Environmental compliance.

8.16.8. Training programs and records.

8.16.9. NWRM Program.

8.16.10. Nuclear Certified Equipment (NCE) identified for use in nuclear operations on unit NCE list.

8.17. DELETED.

8.17.1. DELETED.

8.17.2. DELETED.

8.17.3. DELETED.

8.17.4. DELETED.

8.17.5. DELETED.

8.17.6. DELETED.

8.17.7. DELETED.

8.17.8. DELETED.

8.18. Applicability to Contract Maintenance Activities. Unit level QA is not applicable to contract logistics activities unless required by the Statement of Work (SOW), Performance of Work Statement (PWS), or contract. Wings must ensure their contracted maintenance programs are in compliance with applicable directives through evaluations performed by the QAEs using the criteria outlined in the SOW/PSW/PRS and PMAP. When updating the SOW/PSW/PRS or PMAP, review applicable directives and include/update those SOW/PSW/PRS and PMAP items necessary to ensure contract maintenance activities will comply with applicable directives and inspection criteria.

8.19. Equipment Acceptance. Report the condition of the equipment to the owning and using work centers. QA must provide a reference for identified discrepancies. Review available documents and forms including work cards, job guides, WUC manuals, checklists, AFOSHSTDs and 00-series TOs. The review determines accuracy, currency and compliance with applicable TOs.

8.19.1. Owning work centers perform acceptance inspections to determine equipment condition and adequacy of depot or contractor maintenance. The unit performs acceptance inspections when receiving newly assigned equipment or as a result of Aerospace equipment transferring from another unit, command or depot. QA develops procedures for Aerospace equipment acceptance and transfer inspections. Personnel who perform acceptance inspections should be familiar with the general work requirements and knowledgeable of the contract specifications of the work performed at depot. Include procedures for:

8.19.2. Reviewing the depot/contractor maintenance contract requirements (when available locally). This does not apply to MAJCOM-sponsored programs such as PDM.

8.19.3. Reporting discrepancies found during acceptance inspections (applicable to equipment received from depot) and monitor corrective actions. DRs shall be input into the Joint Deficiency Reporting System (JDRS). DRs are sent to the appropriate ALC and appropriate MAJCOM functional manager.

8.20. Activity Inspection (AI) Program. Lead Commands may establish an AI program. AIs are management and compliance oriented across an entire group. The AI program should:

8.20.1. Identify maintenance discipline, housekeeping, and technical discrepancies, and attempt to identify the underlying cause for the deficiencies.

8.20.2. Encompass all flights within the group including those at geographically separated units.

8.20.3. Produce objective reports and provide specific definitions of problem areas, appropriate directive references, and recommended corrective action.

Table 8.1. Minimum Sampling Requirements for Inspections.[1]

Tasks	Frequency	Remarks
DOE designed tools, test, tiedown and handling equipment	One SI Semi-annually[2]	
Lifting devices, including: - Payload Transporter - Transportable Maintenance System - Nuclear Certified Hoists - Nuclear certified slings and attachments - Cruise Missile Hoisting Equipment (MHU-186/E/F, MHU-166/E, MHU-224/E, and HLU-290/E)	100% Annually	
Personnel hoists and associated lifting bridle	One SI Semi-annually[2]	
Industrial/support equipment and special tools	One SI Semi-annually[2]	
Shelf Life Program	One SI Semi-annually[2]	
Munitions Control, Missile Maintenance Operations Center	One SI Quarterly[2]	
Plans and Scheduling	One SI Quarterly[2]	

TYPE 3 trainers, BDUs, Inert/Dummy Training Items	25% Annually	Deficiencies to training assets will also be identified as SIs during PEs, certifications, etc.
Unsatisfactory Reports/Dull Swords/Deficiency Reporting Programs	One SI Quarterly[2]	
Historical records (AFTOs 244 and 95, IRCs, WIRs, etc.)	One SI Quarterly[2]	
Nuclear Storage and Maintenance Facilities	100% Annually	
Weapons stockpile	50% Semi-annually, 100% Annually	
Cruise Missile Stockpile	100% Annually	All missiles except demil coded assets
High Security Key and Lock, Cell Unlock Device (CUD), and WS3 Communication Security (COMSEC) Programs	One SI Quarterly[2]	
PAL and CDS Management Program	One SI Quarterly[2]	
NARS Programs (accountable records, USAL, SEV/SIR packages)	One SI Monthly[2]	
AF Form 2435, *Load Training and Certification Documents*	100% Annually	
Unit managed lesson plans	100% Annually	
Single Missile Final Assembly Inspection	25% Quarterly	
Fully Loaded Pylon or Full Emergency War Order (EWO) Load	25% Quarterly	In IMF after final Supervisory Inspection
Fully Loaded Launcher or Full EWO Load	25% Quarterly	In IMF after final Supervisory Inspection

NOTES:

1. This table applies to any element or flight level organization that performs FDE activities, nuclear weapons maintenance, weapons mate/demate, weapons handling or final assembly tests. This also includes Plans and Scheduling, Munitions Control or Missile Maintenance Operations Center supporting these operations.
2. The scope and focus of the SI will be determined jointly among QA, the OO/MX SUPT, and the Flight Chief.

Table 8.2. Minimum Task Sampling Requirements & Maximum AQLs for PEs.[1, 6]

Tasks	Frequency[2]	AQL
Common Weapons Maintenance		
General Maintenance (GM)	25% per quarter	4
Limited Life Component Exchange (LLCE)[3]	25% per quarter	4
H1616/H1700 Packaging and Backfill Operation	25% per quarter	2
Parachute Exchange (PC)	25% per quarter	4
Retrofit or Alteration (ALT)[4]	25% per quarter	4
PAL Operations to include Unlock/Release	Determine Locally	2
Common Weapons Handling Tasks		
Transfer	10% per quarter	2
Transport	10% per quarter	2
SGT Upload/Download or Prime Nuclear Airlift Force (PNAF) Movement	50% monthly	Based on task(s) observed
RV/RS Tasks		
Assemble/Disassemble RV	25% per quarter	4
Install/Remove RV	25% per quarter	4
Install/Remove Aft Shroud	25% per quarter	4
Inspect RV Components	25% per quarter	4
Inspect RS Components	25% per quarter	4
RS Electrical Checkout	25% per quarter	4
FDE (Includes Mod 5 kit/Non-nuclear Verification for Vandenberg)[4, 5]	100% per quarter	Determine Locally

Mate/Demate RS to/from MGS	10% per quarter	2
Launcher/Pylon Tasks		
ALCM Mate to Pylon	25% per quarter	4
ALCM Mate to CSRL	25% per quarter	4
Gravity Bomb Mate to RLA	25% per quarter	4
Mate/Demate Pylon to/from Load Frame	10% per quarter	4
Mate/Demate Launcher to/from Load Frame	10% per quarter	4
Payload Mate to Missile	25% per quarter	4
Mate/Demate MHU-196/204 Trailer with Launcher/Pylon	10% per quarter	4
Cruise Missile Tasks		
Engine Removal/Installation	10% per quarter	2
Missile Transfer	10% per quarter	1
Engine Prime	10% per quarter	1
Missile Fuel/Defuel	10% per quarter	2
Missile Level 1	10% per quarter	2
Loaded CSRL/Pylon Test	25% per quarter	1
Unloaded CSRL/Pylon Test	10% per quarter	2
ESTS Calibration Certification	10% per quarter	1
ESTS Operational Assurance Test	10% per quarter	1
General Tasks		
NWRM Component Packaging	25% per quarter	Determine Locally
TCTO, Maintenance Change Log, One-Time Inspection	As a minimum, evaluate the first, last, and 10% of each modification or inspection.	Determine Locally

NOTES:

1. This table applies to any element or flight level organization that performs FDE activities, nuclear weapons maintenance, weapons mate/demate, weapons handling or final assembly tests.
2. Required percentages apply to forecasted maintenance only, not to unscheduled operations performed as a result of failed launcher/pylon test, MGS failure, etc. A sampling of unscheduled operations should be evaluated as the opportunity arises.

3. This includes ALT 900 series maintenance.
4. QA must observe the first weapon retrofit, alteration or modification (does not apply to ALT 900 series).
5. This applies to both the shipping and receiving units in the FDE process. QA shall watch all applicable operations in the RS build-up or tear-down process for systems selected for FDE, including the inspection of RS/RV components. Assemble/disassemble operations may be counted as personnel evaluations, including the packaging/unpackaging of components. After the fact inspections may be used by the evaluator to fulfill the 100% requirement. Appropriate AQL levels will be applied to each applicable operation performed as part of the FDE.
6. In addition to Transfer, Transport and items identified under General Tasks, the following tasks apply to ICBM maintenance technicians only: Mate/Demate RS to/from MGS.

Table 8.3. DELETED.

Table 8.4. Minimum Sampling Requirements for Personnel Evaluations.

Requirement	Frequency	Remarks
Technicians		
PE for each technician	Initial[1]	TT trained technicians receive PE prior to graduation. Non-TT trained technicians receive PE within 90 days of initial interview
	Quarterly[2]	Eligibility begins the first full quarter following graduation/initial evaluation. PE will be conducted on JQS qualified technical tasks.
	Semi-Annually	(ICBM) Trainer Maintenance technicians performing maintenance on training launch facilities and related ICBM components
Emergency Procedure PE for all personnel qualified on launch facility enter/exit	Initial	PE will be conducted prior to technician performing unsupervised tasks at LF.
Trainers		
TPE	Initial	Prior to conducting unsupervised training
	Semi-Annually	Performed on trainer conducting qualification/certification/recurring training
Evaluators		

EPE for Quality Assurance evaluator	Initial	Must be evaluated while conducting a PE and QVI or SI before performing unsupervised QA duties.
	Semi-Annually	Must be conducted while performing either a PE or TPE.
Workcenter		
Each workcenter with technicians authorized to penetrate launch facilities	Quarterly	LF Emergency Procedure PE
Door-to-Door/Portal-to-Portal Evaluation[3, 4]	Quarterly	Performed on any production workcenter

NOTES:

1. Initial task certifications will not be credited towards annual evaluations.
2. For technicians certified IAW AFI 21-204, PEs will be on 2 certified tasks and 2 non-certified tasks per year.
3. A door-to-door/portal-to-portal PE includes pre-task, task and post-task performance actions and is designed to evaluate the complete maintenance process.
4. Each ICBM 2M0XX Team Chief will receive an initial Portal-to-Portal evaluation within 120 days of Team Chief certification.

8.21. Reporting.

8.21.1. MAJCOM-approved QA database. Every unit must capture and catalog the minimum data elements depicted in the following paragraphs into their database for trending, cross tell and benchmarking purposes. Capture assessment and trend data using a database that makes information easily exportable for cross tell and benchmarking purposes. Every effort should be made to fully utilize Local Area Networks to provide all supervisors with real time, read-only access to the database. Units will develop procedures to restrict/grant levels of access to this information. Whenever possible, read-only access should be available to all unit personnel. Minimum data fields contained in the database must be:

8.21.1.1. Work center: Input the shop code whose process was inspected.

8.21.1.2. Inspector: Enter the employee number of the inspector.

8.21.1.3. Employee: Enter the employee number or equivalent of the person inspected.

8.21.1.4. Date: Enter the date the inspection was completed.

8.21.1.5. Time: Enter the time of day when the inspection took place (24-hour clock).

8.21.1.6. Shift: Enter the shift during which the actual work was performed.

8.21.1.7. Type Inspection Performed: This code reflects the inspection performed. (e.g., PE, SI, QVI)

8.21.1.8. WUC/Logistics Control Number (LCN) or Type Event Code (TEC): This code reflects the event being evaluated. (e.g., CTK, phase)

8.21.1.9. AQL/standards: The number of discrepancies allowed for a particular item or process (task).

8.21.1.10. Inspection Rating: "Pass" or "Fail".

8.21.1.11. Equipment: Enter the type of equipment assessed.

8.21.1.12. Equipment ID: Enter the equipment ID. Example of this field would be A/C serial number 91-0387, SG01, etc.

8.21.1.13. Discrepancy Category: Identify discrepancies as: Major or Minor.

8.21.1.14. Discrepancy root cause code (see **Attachment 2**)

8.21.1.15. Remarks: The narrative of inspector findings.

8.22. Monthly Summary (Quarterly for ANG). The QA summary advises the NAF and/or MAJCOM, WG/CC and Group CCs of the quality of logistics production. The monthly summary shall be published and distributed (may be electronic) to the MAJCOM A4/A3, WG/CC, MXG/CC and appropriate activities in the maintenance complex. Compile the summary from inspection data, load crew evaluation statistics (provided by WS) and summaries. The QA summary will include visual information, graphs, narratives, quality trends identified through inspections and evaluations, discussion of common problem areas and descriptions of successful programs or initiatives. As a minimum, the monthly narrative report must contain an analysis of the QA results, a summary of major discrepancies, technical inspections and recommendations for improvement. Care must be taken to ensure that no classified information is included in unclassified QA summaries. To ensure the greatest visibility possible for QA summaries, classified parts must be published separately from the main summary. Although most portions of the QA summary will not be classified, the category of nuclear weapons stockpile, if used, must always be classified. Prior to preparing the narrative report, QA must conduct a study of trends. The relationship between personnel evaluation and technical inspection results may indicate strong or weak portions of the program (e.g., excellent personnel evaluation scores and marginal equipment scores).

8.22.1. Quarterly MAJCOM Summary. MAJCOMs will summarize and report quarterly QA results to HAF/A4L. This should be accomplished via web-enabled tools and common operating pictures. The QA summary will include visual information, graphs, narratives, quality trends identified through inspections and evaluations, discussion of common problem areas and descriptions of successful programs or initiatives.

8.22.2. Include high-missed items from PEs and QVIs in the unit's monthly (ANG - quarterly) QA summary. A high-missed carded item is defined as any work card item missed at least three times during a one-month period. Units should use the high-missed items to enhance maintenance-training programs, detect trends and improve the quality of maintenance.

8.23. Trend and Root Cause Analysis. Review previous reports to determine if inspected areas have improved or declined. Consistently high scores in any category may indicate emphasis on that part of the program is not focused on the unit's actual problem areas. Low scoring areas may require a reassessment of the corrective actions taken by management. Highlight trends and root causes in the summary.

8.24. QA Meetings. The unit must conduct quarterly meetings to review QA data chaired by the Wing Commander. Attendees must include, as a minimum, Group and Squadron Commanders, Operations Officers/MX SUPTs, and inspectors. This meeting is a forum to refine QA direction, address logistics issues and resolve problems. It provides cross-tell to all logistics activities by reviewing QA inspections, evaluations and trends.

8.25. Manning, Training, Qualification and Proficiency

8.25.1. Chief of QA will develop a local training plan to train all QA personnel. In this section use of QA inspector includes augmentees.

8.25.1.1. Training must cover inspection and evaluation techniques, documenting inspection worksheets and actions to prevent personnel injury or equipment damage. The formal QA inspector course may be used to supplement this training. Document QA Inspector training in individual training records.

8.25.1.2. QA inspectors are JQS qualified on all KTL tasks. Chief Inspectors will identify other critical tasks requiring JQS qualification on the 797. For all other tasks, inspectors must be familiar with the requirements/procedures of tasks they evaluate. (CUT for QA inspectors are not allowed for 2W1 maintenance tasks. Only 2W1 personnel will perform these inspections (N/A to ARC)).

8.25.1.3. Quality Assurance may need augmentee evaluators for some work centers. Ensure qualification on the appropriate technical tasks in the CFETP they will evaluate. Permanent augmentees will meet all qualifications required for QA.

8.25.1.4. Maintain 100 percent coverage of nuclear tasks and missile maintenance tasks, except for training-peculiar tasks for ICBM instructors and ICBM trainer maintenance personnel and Rivet MILE Special Skills Qualification tasks.

8.25.1.5. **(N/A 595 SG)** MMT evaluators must meet certification program requirements IAW AFI 21-204, and maintain AF Form 2435, *Load Training and Certification Document*, IAW AFI 21-204 for all RS certifiable tasks to maintain certification to handle operational reentry systems.

8.25.1.6. Evaluator Qualifications: Prior to performing unsupervised evaluator duties, personnel selected as evaluators must:

8.25.1.6.1. Be JQS qualified on the appropriate evaluator CFETP tasks.

8.25.1.6.2. Complete unit evaluator training program, to include at least one proficiency evaluation and one technical inspection.

8.25.1.6.3. All nuclear weapons, cruise missile, reentry systems/vehicle, and ICBM evaluators must complete the 20 AF Maintenance Evaluator Course (MEC) / (2EXXX) Communications Evaluator/Inspector Course (CEIC). See AFCAT 36-2223, *USAF Formal Schools***,** for prerequisites. If the evaluator is unable to attend the 20 AF MEC due to reasons beyond the unit's control, the OIC/Superintendent of QA may waive this requirement and allow the individual to perform evaluations unsupervised. However, the individual must be scheduled to attend the 20 AF MEC for the earliest available class.

8.25.1.6.4. Receive an EPE.

8.25.1.6.5. Be interviewed by OIC/Superintendent of QA.

8.25.1.7. OIC/Superintendent/Chief Evaluator of QA must conduct an EPE semi-annually on each evaluator conducting a PPE or TPE. Evaluators that are overdue their semi-annual EPE will be restricted from performing proficiency evaluations unsupervised.

8.25.1.8. QA evaluators must be JQS qualified to perform the QVI, SI, PE, and TPE identified in **Table 8.1**, **8.2**, **8.3**, and **8.4**.

8.25.1.9. Selection of a VACE QA augmentee is highly encouraged if dedicated 2M0X1 evaluator does not hold an 809 SEI.

8.25.1.10. Quality Assurance Augmentation. If a functional area does not warrant a full-time position in QA, but specialized expertise is required, select qualified technicians that are recommended by their SQ/CCs (or Branch Chief in ALC/AMARG) to be augmentees. Each QA must maintain a listing of current augmentees. In coordination with the OO/MX SUPT (SQ CC/Branch Chief in ALC/AMARG), QA shall establish augmentee duties.

8.25.1.11. Rotation of Quality Assurance Personnel. The QA Superintendent is responsible for developing/executing a plan to rotate QA personnel. Personnel should be assigned to QA for a maximum of 36 months/minimum of 24 months. Personnel receiving specialized training (i.e. W&B) should be assigned for 36 months to ensure program continuity. QA personnel on short tours do not need to meet the time requirements. ARC, civil service, and service provider employees do not have any time requirements.

Table 8.5. Grading Criteria.

RULE	If the Individual Committed	AND	Award a grade of
1	No major errors	No minor errors and overall task performance clearly exceeds established standards to the point of being considered exceptional	Satisfactory or higher grade
2		No minor errors, or the accumulation of minor errors does not exceed established AQL	Satisfactory
3		The accumulation of minor errors exceeds established AQL	Unsatisfactory
4	One or more major errors	N/A	

Table 8.6. Proficiency Evaluation Error Criteria Description.

MAJOR ERROR:
1. Violation of Weapon System Safety Rules. An error that would violate weapon system safety

rules (Actual or Credible Possibility).

2. Significant Safety Error. An error that, as a reasonable expectation, could result in personnel injury caused by an individual's disregard or lack of attention to safety precautions.

3. Significant Equipment Damage. An error that, as a reasonable expectation, could damage a support equipment/weapon system component to the extent it cannot be used for its intended purpose. This does not include damage to common hand tools.

4. Code Handling Violation. An error that, as a reasonable expectation, could result in a code compromise (Actual or Credible Possibility).

5. Violation of Two-Person Concept. An error that, as a reasonable expectation, could result in a compromise of a no-lone zone or critical component(s) (Actual or Credible Possibility).

6. Significant Security Violations. An error that, as a reasonable expectation, could result in compromise of the weapon system or subsystem (Actual or Credible Possibility).

7. Failure to have available or utilize technical data while performing maintenance.

8. Lack of Proficiency. Clearly demonstrated inability to successfully complete the task due to a lack of job knowledge. Cannot correctly or safely accomplish task without excessive outside intervention or assistance.

9. Individual not trained/qualified/certified on task being performed.

10. Failure to document maintenance actions/conditions that, as a reasonable expectation, results in erroneous equipment availability/weapon system status; or significant safety/security deficiency.

11. Failure to recognize an unacceptable condition/test result that is cause for rejection of equipment or prevents support equipment/system or weapon system component from operating.

12. Failure to recognize an acceptable condition/test that causes the team/technician to reject serviceable components or equipment.

13. Failure to properly execute custody transfer procedures.

14. Failure to comply with the intent of technical data warnings or cautions. Failure to read a warning or caution is a minor error, provided the warning/caution is not violated.

15. A condition which creates an unreliable nuclear weapon or an unsafe or insecure environment as defined in CJCSI 3263.05, *Nuclear Weapons Technical Inspections*.

16. A condition that creates an unreliable missile or missile component.

MINOR ERROR:

1. An error that does not prevent a support equipment/weapon system component from being used for its intended purpose, but would, as a reasonable expectation, have a detrimental effect on the operational life of the component/equipment/system. This may include damage from common hand tools due to misuse.

2. An error that, as a reasonable expectation, could require support equipment to be returned to another agency for recalibration/verification.

3. Any error not meeting the criteria for a major error.

ADDITIONAL TRAINER PROFICIENCY EVALUATION CRITERIA

MAJOR ERROR:

1. Failure to have available/utilize lesson plan or technical data.

2. Failure to provide students with technically accurate information that would result in trainees lacking required skills or abilities to perform as required.

3. Failure to train all portions of the tasks that would result in trainees lacking required skills or abilities to perform as required.

4. Trainer does not detect, correct, and provide re-training for major errors committed by trainees.

MINOR ERROR:

1. Did not document training session.

2. Did not detect/correct a minor error.

ADDITIONAL EVALUATOR PROFICIENCY EVALUATION CRITERIA

MAJOR ERROR:

1. Evaluator incorrectly awarded a major error and/or unsatisfactory rating.

2. Failure to brief or critique technicians.

3. Failure to retrain or defer retraining of a major error.

4. Ensured task completion through interference or influence.

5. Failure to detect, stop, correct or document a major error.

MINOR ERROR:

1. Failure to detect or correct a minor error.

2. Failure to brief or critique a required item.

3. Failure to document a critiqued error.

4. Did not provide a realistic impact statement.

5. Evaluator incorrectly awarded a minor error.

Chapter 9

ACCESS, APPROVAL AND AUTHORITY LIST (AAAL)

9.1. General Policy

9.1.1. The AAAL management procedures in this chapter apply to all nuclear capable units except units that use Advanced Entry Control System (AECS). USAFE units will also comply with additional requirements in AD 80-6_ECI 6801.01 , Nuclear Surety Management for the WS3.

9.1.2. Units using an AECS, for authorizing entry into exclusion area, will have the MASO approve access by signing the appropriate section of the AF Form 2586, *Unescorted Entry Authorization Certificate*. In the event of AECS failure, the unit will create a two-person access list using applicable requirements in **paragraphs 9.2** and **9.3** to ensure continued operations.

9.1.3. The MASO approves overall access to nuclear weapons by signing the AAAL.

9.2. AAAL Management. AAALs are used to identify personnel authorized to accept custodial responsibility and perform certain actions associated with WSA and WS3. ***NOTE:*** The intent of **Figures 9.1**, **9.2**, and **9.3** are for reference only and not directive in nature. The form layout is up to the units' discretion; however, required information identified in this chapter must be reflected and original signatures present.

9.2.1. AAALs identify, as a minimum, personnel authorized to:

9.2.1.1. Issue and receive keys/code modules to weapons maintenance and storage structures/vaults. Personnel authorized to issue keys/code modules may also be authorized to receive keys/code modules.

9.2.1.2. Open and secure weapons maintenance and storage structures or lock or unlock weapon storage vaults (as applicable).

9.2.1.3. Open and close containers at Entry Control Points (ECP) and secure keys to maintenance facilities or Assembly, Surveillance, and Inspection (AS&I) type facilities. (If keys are stored at the ECP)

9.2.1.4. Activate and deactivate weapons storage structures (i.e. weapons are present or not present).

9.2.1.5. Perform pre-announcements to security forces for personnel accessing weapons maintenance and storage structures, weapons storage vaults, or escorting personnel into the WSA.

9.2.1.6. Issue and receive alternate controller (WS3 only)

9.2.1.7. Issue and receive Universal Release Code (URC) Cards (WS3 only)

9.2.1.8. Perform WS3 maintenance (WS3 only)

9.2.2. AAAL will include, as a minimum, full name, codes authorized, enlisted or officer, last six of SSN/entire control number (CN) from government issued identification, security clearance and PRP status (None, Interim or Certified).

9.2.3. Pen and ink additions without authenticated Change Letter are prohibited.

9.2.4. Quantities of AAALs will be determined locally.

9.2.5. Original signatures are required on all copies of the AAAL. If the AAAL pages are bound together in a single computer-run product, authenticate on the first or last page only, and indicate the number of pages. If the pages are separated each page must be authenticated.

9.2.6. Code descriptions provided below are examples of descriptions that can be used. Different descriptions, if used, will be clear, concise, and not repetitive.

9.2.6.1. Issue or receive WS3 alternate controller.

9.2.6.2. Perform pre-announcements to security forces for personnel accessing weapons maintenance and storage structures/vaults, access to URC's or escorting personnel into the WSA.

9.2.6.3. Receive either "A" or "B" lock combination and spare/maintenance key boxes for non-conventional munitions.

9.2.6.4. Issue and receive keys, open and secure non-conventional maintenance bays and storage structures.

9.2.6.5. Open and secure key box for building (M&I, AS&I, or conventional building) located at building #_____ (normally the ECP).

9.2.6.6. Issue and receive keys, open and secure (armory, gunroom, or gun locker) in building #_____ (where the guns are stored).

9.2.6.7. Activate and deactivate alarm systems on munitions storage structures.

9.2.6.8. Receive Control "C" lock combination to primary and spare/maintenance key set boxes.

9.2.6.9. Issue and/or receive "A" side code module, URC, lock/unlock weapon storage vault.

9.2.6.10. Issue and/or receive "B" side code module, URC, lock/unlock weapon storage vault.

9.2.6.11. Authorized to perform WS3 vault maintenance.

9.2.7. AAALs will be published when determined by MX/SUPT or AAAL OPR.

9.3. Change Letters. Change Letters will be used for interim changes to the AAAL (Figure 5.1 and 5.2). Changes should be held to an absolute minimum. A single letter may be used to add and delete individuals (Figure 5.3). Change Letters to a AAAL will be consecutively numbered, beginning with number one, and will identify the date of the AAAL it changes (with each revision of the AAAL, the Change Letter sequence number starts with one). These letters will be authorized, certified, authenticated (except for deletion letters) and distributed in the same manner as the AAAL. Entries will be pen and inked (handwritten or typed) on referenced AAAL with Change Letters filed with or attached.

9.3.1. Deletions. In cases where individuals or information must be deleted, MX/SUPT or designated representative will immediately notify all agencies possessing AAALs by

telephone and document time, date, and agency called. Each work center will place a single line through the entry on the AAAL upon receipt of the telephone notification. As soon as practical, the AAAL OPR will produce a Change Letter. Letter will include, as a minimum, person's full name, social security number (use last six numbers) and change requested. Upon receipt of the Change Letter, annotate the deleted entry with the Change Letter sequence number.

9.3.2. Additions. In cases where information is to be added, MX/SUPT or AAAL OPR will initiate a Change Letter. Letter will include all information listed in **paragraph 9.2.2**. Letter will be processed using same procedures as processing AAAL. Upon receipt of the authenticated Change Letter, the entry will be pen and inked on the AAAL and annotated with the Change Letter sequence number.

9.4. Responsibilities.

9.4.1. Unit Commanders. Will:

9.4.1.1. Review and sign (certify) AAALs and addition letters.

9.4.1.2. Ensure authorized individuals have a security clearance equal to or greater than the items being secured by the keys and locks or code modules.

9.4.1.3. Ensure authorized individuals have appropriate PRP certifications.

9.4.2. Maintenance Supervision (MX/SUPT) will:

9.4.2.1. Designate responsible OPR to maintain, update, review and distribute AAAL and Change Letters as required and determines contents of legend (codes and description) for the AAAL.

9.4.2.2. Certify and sign deletion letters.

9.4.3. MASO will:

9.4.3.1. Sign (authorize) AAALs and addition letters.

9.4.4. Security Forces will:

9.4.4.1. Security Forces must sign (authenticate) AAALs and Addition Letters in accordance with standard Security Force processing procedures for Entry Authorization Lists (EAL).

9.4.5. AAAL OPR will:

9.4.5.1. Process AAAL as follows:

9.4.5.2. Consolidate Change Letters for current AAAL into a working copy AAAL.

9.4.5.3. Ensure applicable flights/sections/elements review working copy of AAAL prior to authentication.

9.4.5.4. Make corrections as required, and hand carry AAAL to MASO. Ensure the MASO reviews and grants authorized individual's access to facilities/storage structures/vaults containing nuclear weapons by signing the AAAL. Ensure review includes, but is not limited to verifying individuals are not given authorized access or knowledge of more than one combination protecting keys/code modules to nuclear maintenance facilities, storage structures, or weapon storage vaults.

9.4.5.5. Hand-carry the authorized AAAL to the Unit Commander for certification. Unit Commanders signature certifies proper security clearance, PRP status, and need for access/authorization verified for individuals listed.

9.4.5.6. Hand-carry certified AAALs to the Security activity for authentication.

9.4.5.7. Ensure authenticated AAALs and change letters are immediately distributed to activities as required.

9.4.6. Work centers that receive or provide inputs for inclusion in the AAAL will:

9.4.6.1. Work centers that receive or provide inputs for inclusion in the AAAL will:

9.4.6.2. Make initial and subsequent inputs to the AAAL OPR. Requests will include as a minimum, the person's full name, grade, clearance status and type of authorization/access.

9.4.6.3. Review AAAL to ensure information affecting personnel assigned to their organization is correct.

9.4.6.4. Add, change or delete information affecting assigned personnel. Submit this information to the AAAL OPR in sufficient detail to enable updates to be made.

Figure 9.1. Sample AAAL (Legend Page).

PREPARED: 1 January 2005

ACCESS APPROVAL AUTHORITY LISTING LEGEND

CODE NO.	DESCRIPTION
01	Receive the "A" lock combination to the Primary and Spare key boxes for nuclear storage facilities
02	Receive the "B" lock combination to the Primary and Spare key boxes for nuclear storage facilities
03	Activate/Deactivate storage structures
04	Preannounce personnel to access structures or escort individuals into the WSA
05	Issue A or B keys for nuclear storage facilities
06	Issue/receive "A" side code module
07	Issue/receive "B" side code module
08	Issue/receive URC's
09	Issue/receive WS3 alternate controller

AUTHORIZED BY:

MASO

CERTIFIED BY:

Commander, 123 MXS

AUTHENTICATED BY:

123 SFS Authenticating Official

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Figure 9.2. Sample AAAL (Personnel Authorization Listing).

PREPARED: 1 January 2005

ACCESS APPROVAL AUTHORITY LISTING

PERSONNEL AUTHORIZATIONS

SEC NAME	CHANGE CODE	GRD	SSN	CLEAR	PRP LETTER
KNOWLES, Richard M.	02, 03	ENL	67-8912	T/S	CERTIFIED 01
YOCOM, Lonnie T.	01,03	ENL	98-7654	T/S	CERTIFIED
GRAVES, Michael R.	01, 04	ENL	12-4321	SEC	INTERIM
HODGSON, Billy	02, 04	OFF	56-7891	T/S	CERTIFIED
OGUREK, Robert M.	01, 03	ENL	45-6789	SEC	INTERIM
LUECK, David B.	01, 04	ENL	65-4321	T/S	CERTIFIED 01

AUTHORIZED BY:

MASO

CERTIFIED BY:

Commander, 123 MXS

AUTHENTICATED BY:

123 SFS Authenticating Official

Page 3 of 3

Figure 9.3. Sample Change Letter.

MEMORANDUM FOR 123 SFS/CC 3 Jan 05
123 MXS/MXM
FROM: 123 MXS/CC

SUBJECT: Access, Approval, Authority List (AAAL) Change Letter No. 1

1. Delete the following individual from AAAL, dated 1 January 05 by placing a single line through the entire line entry.

NAME	SSN
CLARK, Chad S	67-8912

2. Add the following individual to AAAL, dated 1 January 05, by neatly writing the following information after the last entry

NAME	CODES	GRD	SSN	Sec Clear	PRP
SPEASE, Brian E	01, 04	ENL	65-4321	SEC	Interim

3. Post this letter with the AAAL. Upon receipt and validation of new AAAL, destroy this letter.

AUTHORIZED BY:

MASO (Only required for additions)

CERTIFIED BY:

Commander, 123 MXS (MX/SUPT for deletion letters)

AUTHENTICATED BY:

123 SFS Authenticating Official (not required for deletion letter.)

Chapter 10

TOOL AND EQUIPMENT MANAGEMENT

10.1. Tool and Equipment Management. The objectives of the tool and equipment management program are to prevent and eliminate damage to aircraft, engines, missiles, training and support equipment, and to reduce costs through strict effective control and accountability of assets. To ensure standardization among maintenance units, commanders and key leaders are responsible for executing an effective tool program. Tool and equipment management applies to all munitions units at the depot and in the field. All Conventional, Armament Systems, and other munitions activities supporting flightline operations will follow tool and equipment management policies and procedures in AFI 21-101. All other munitions activities, as defined in **paragraph 1.2**, will follow this chapter. The tool management program outlined in this Instruction represents AF minimum program requirements; MAJCOMs may dictate additional requirements.

10.2. Guidelines for Program Management.

10.2.1. The Group CC is the OPR for the development of wing procedures for control and management of tools/equipment used on weapon systems, and aerospace equipment maintenance industrial areas. As a minimum, guidance will address the following:

10.2.1.1. Standardized procedures for security, control, and accountability (e.g., chits, manual, barcode, etc.) of tools and equipment to include weapons load crew crimpers, die, lead seals, and engine blade blending blue dye. Chits are not authorized to identify missing/removed tools for dispatchable CTKs.

10.2.1.2. Inventory requirements. As a minimum, conduct and document an annual inventory of all tools and equipment.

10.2.1.3. Procedures for warranted tool management.

10.2.1.4. Procedures for control and management of replacement, expendable and consumable hand tools, HAZMATs, and other items contained in CTKs.

10.2.1.5. Procedures for transfer of tools/CTKs at the job site (on-site transfers). CTKs are not normally passed from one individual to another at the job site; however, mission needs occasionally require this action to occur. Ensure tool accountability and control is maintained when transfer occurs between the individuals. As a minimum the individuals involved in the transfer will accomplish a joint inventory and document accordingly.

10.2.1.6. Procedures for lost or missing tools.

10.2.1.7. Assignment of equipment identification designators (EID) for CTKs, non-CA/CRL equipment, and assignment of CTK numbers for tools.

10.2.1.8. Procedures for issue and control of PPE (e.g., ear protectors, reflective belts, headsets).Mark tools or equipment that a work center assigns/issues to an individual.

10.2.1.9. Procedures to ensure positive control of rags.

10.2.1.9.1. A rag is defined as a remnant of cloth purchased in bulk or a standardized, commercial quality, vendor-supplied shop cloth used in general industrial, shop, and

flightline operations. Cheesecloth is considered a rag; however, paper products/paper towels are not considered rags. Rags will be uniform in size and color.

10.2.1.10. Procedures to limit numbers of personnel authorized to procure tools.

10.2.1.11. Procedures for control of locally manufactured or developed tools and equipment.

10.2.1.12. Procedures for depot teams, factory representatives, and CFTs when working on equipment within the unit.

10.2.1.13. Procedures and responsibilities for situations where two or more work centers operate a single tool room/support section, or when work centers elect to distribute CTKs or peculiar support/test equipment to decentralized locations.

10.2.1.14. Local procedures must as a minimum direct a second party or on-duty supervisor inspection of the tool kit. The same individual that signs out a CTK cannot sign it back in.

10.2.1.15. Procedures for controlled access to tool rooms.

10.3. General Program Guidelines.

10.3.1. The FLT CC/Chief will designate CTK Custodians in writing. CTK custodians are responsible for tool, HAZMAT, and consumable asset accountability and control.

10.3.2. Flight chiefs/section NCOICs (or equivalents) determine the type, size, and number of CTKs required for their work centers.

10.3.2.1. The flight chief/section NCOIC will maintain a complete listing of all CTKs and tools/equipment issued as a single item (e.g., testers, torque wrenches).

10.3.3. Design CTKs to provide a quick inventory and accountability of tools. Clearly mark all CTKs and tools with the EID (follow guidance below). Develop local procedures to determine which tools are checked out and who has them. Inspect all tools periodically for serviceability IAW TO 32-1-101, *Use and Care of Hand Tools and Measuring Tools.*

10.3.3.1. CTK contents will be standardized to the maximum extent possible within functional elements of a squadron that have similar missions.

10.3.3.2. Each tool, item of equipment, or consumable contained in a CTK has an assigned location identified either by inlay cuts in the shape of the item, shadowed layout, or silhouette. No more than one item is stored in a cutout, shadow, or silhouette except for tools issued in sets such as drill bits, allen wrenches, apexes, or paired items (e.g., gloves, booties).

10.3.4. A MIL is required for each tool kit or series of identical kits and filed by the CTK custodian in the master MIL file. (***NOTE:*** When TAS is in use, the MIL will be extracted from TAS. Flight commanders or flight chiefs must review and sign the MIL.) The MIL remains valid until contents change. MILs do not require replacement solely to update signature.

10.3.4.1. A copy of the MIL will be kept in the tool and equipment storage facility at all times for inventory purposes. For dispatchable CTKs, a copy of the MIL must be kept with the dispatched CTK at all times.

10.3.4.2. If chits/dog tags/identification tags or similar tags or dust caps are attached to tools/equipment, they will be secured in a manner that will preclude any possibility of FOD. Locks(s), key(s), and tie down strap(s), if not permanently attached, will be marked/etched with the appropriate CTK number. All items are listed on the MIL.

10.3.4.3. Consumables may be placed in CTKs. If so, they are identified on the MIL as consumables. Examples of consumables include safety wire, adhesive, wire bundle lacing, solder, etc. Do not include common hardware items such as bolts, nuts, and (or) screws unless they are required as tools.

10.3.4.4. Document removed or broken tools/items on all copies of the MIL and in TAS. In addition to this requirement, units may also document missing or removed tools on a locally developed missing/removed tool log (may be automated). The EID will be removed from any broken/removed tool/item.

10.3.5. Equipment and accessories that do not present a FOD potential and will not leave the work center, support section, or tool room, need not be included in a CTK; however, this equipment must have designated storage locations established. Designated locations may be work areas or stations (e.g., TMDE flight, avionics flights, propulsion flight).

10.3.5.1. Establish designated locations for test equipment and common accessories (e.g., waveguides, attenuators, fittings, cables, adapters) that are not part of a CTK.

10.3.5.2. Industrial shop machinery accessories/attachments (e.g., blades, arbors, chucks, gears) need not be controlled as tools; however, these items will be maintained in designated storage locations for accountability. As a minimum, storage cabinets/drawers will be labeled to identify the contents.

10.3.6. Discard removable (e.g., slide on) pocket clips from tools when possible (flashlights, continuity testers, small screwdrivers, etc.) prior to placement in tool kits. Do not disassemble/damage tools for sole purpose of removing clips, rubber switch guards, etc.

10.3.7. Tools not controlled through CTK procedures are NOT authorized on the flightline, or in any maintenance area (e.g., mini-mag flashlights, Leathermans, buck knives, etc.). Mark and control equipment that a work center assigns/issues to an individual IAW MAJCOM supplements. Personally-purchased tools are not authorized.

10.3.8. Flashlights, lanterns, portable lighting devices and light sources will conform to the requirements of TO 00-25-172 when used during servicing operations, TO 1-1-3 when used during fuel cell maintenance, and AFMAN 91-201 when used in explosive environments. ***NOTE:*** Aircraft and equipment TOs may dictate additional restrictions.

10.3.9. For deployment purposes, ensure equipment, tools, and HAZMAT items are properly identified, prepared, and documented IAW AFI 10-403.

10.4. Tool Accountability. Flight commanders/chiefs and section NCOICs, through CTK custodians, are responsible for tool and equipment accountability and control (knowing where tools are and who has responsibility for them.) When a person signs for a tool or piece of equipment, they are accountable for the item until it is returned to the tool room and accountability transfers back to the CTK custodian (through a representative or tool room employee.)

10.4.1. All units must use TAS or other AF approved system per provisions in AFI 21-101, paragraph 10.4.1.3, for accountability and control of tools and equipment. Contractors and MEOs are not required to use TAS or other approved AF system until the contract is recompeted and the requirement for its use is added to the follow-on contract or the contractor/MEO voluntarily elects to use it at no additional expense to the government. ***NOTE:*** All references to TAS in this AFI includes other AF approved systems (as previously indentified) for accountability and control of tools and equipment.

10.4.1.1. Units will use TAS to:

10.4.1.1.1. Track the issuance and receipt of all assigned tools, equipment, tool kits, HAZMAT items, TOs (does not apply to TOs, equipment and HAZMAT kept in a shop and not dispatched.)

10.4.1.1.2. Track authorizations/restrictions for special tools/equipment (by individual)

10.4.1.1.3. Track inspections required by this instruction

10.4.1.1.4. Track spare, lost, and damaged (removed) tools

10.4.1.1.5. Develop and manage tool/equipment inventories

10.4.1.1.6. Develop and manage deployment kits (import/export)

10.4.1.2. If TAS is not available (such as at a deployed location), units may use a chit system, AF Form 1297, *Temporary Issue Receipt*, or, a MAJCOM or locally approved form for accountability and control of CTKs, equipment, and tools. When using a chit system, chits are controlled as tools to include a beginning and end of shift inventory. Do not issue chits directly to individuals or remove them from tool rooms. Chit control boards are located in secure locations.

10.4.2. Account for all CTKs, tools, and dispatchable equipment at the beginning and end of each shift. Separate shift inventories must be documented by both outgoing and incoming personnel. CTKs present during tool room shift inventories do not need to be opened for inventory.

10.4.2.1. Perform a visual inventory of all CTKs when issued for use, at the completion of job or tasks, and when returned to the tool storage facility. Accomplish a CTK inventory prior to operation of any aircraft or equipment when maintenance actions were performed (e.g., engine run, landing gear retraction, flight control operational checks.).

10.4.2.2. At least annually or when the CTK custodian changes, conduct a comprehensive inventory of all tools, non-CA/CRL equipment, and CTKs. The purpose of this inventory is to perform an extensive inspection of all tools and non-CA/CRL equipment, to include condition, identification markings, and accuracy of the MIL. Inspect all tools for serviceability IAW TO 32-1-101. CTK custodians document these inventories and maintain the most current inventory documentation on file.

10.4.3. Electronic Tools (E-Tools). The following section contains guidance for maintenance personnel and support sections for the accountability, control and use of E-Tools. Group TODO offices must be used to effectively control the electronic technical data configuration.

Workgroup managers shall monitor E-Tool configuration (operating system, virus checkers, etc.) IAW 33-series AFIs.

10.4.3.1. The wing and squadron support sections must establish procedures for local accountability, control and use of E-Tools to include laptops computers, electronic "tablets", hand-held devices, etc. As a minimum, representatives from unit Communications, the TODO, Small Computers, and Maintenance should coordinate on the contents of these procedures.

10.4.3.2. E-Tools purchased and used for the purpose of viewing digital technical data and maintenance documentation must be accounted for as Automated Data Processing Equipment (ADPE) IAW 33-Series AFIs.

10.4.3.2.1. Licenses, certification, maintenance and security of E-Tools (hardware and software) must also be IAW 33-series AFIs and AFI 21-116, Maintenance Management of Communications-Electronics. Units must make maximum use of E-Tool warranties and ensure only serviceable E-Tools with charged batteries, up to date system software, and current technical data are available for checkout.

10.4.3.2.2. E-Tools purchased by the MAJCOM for viewing digitized data and maintenance documentation must only be used for their intended purpose. Only MAJCOM-authorized software required to directly support maintenance activities shall be loaded/installed on E-Tools. E-Tools will not be treated/used as a personal computer.

10.4.3.2.3. An ADPE account specifically designated for E-Tools shall be set up within each support section if applicable. This is to account for E-Tools separately from other small computers within the squadron or support section. A copy of this E-Tool ADPE account must be kept on file by the TODO to facilitate technical data inventory and configuration.

10.4.3.3. The Lead or Group TODO custodian shall be the Wing POC for coordinating E-Tool requirements to support digitized TOs.

10.4.3.3.1. The TODO shall be the focal point between users, support sections, base Small Computers and system administrators for matters concerning digitized technical data and E-Tools.

10.4.3.3.2. The Lead TODO must maintain a copy of all E-Tool ADPE accounts. The Lead TODO(s) shall work with other TODOs and TODAs to ensure E-Tools are configured with current software to support TO and maintenance documentation.

10.4.3.4. E-Tools maintained in a support section will be issued using the same procedures used for other support equipment.

10.4.3.4.1. Ensure E-Tools are managed properly IAW their security classification.

10.5. Marking and Tool Identification.

10.5.1. All units must mark their tools with the standard EID and utilize the AF-approved TAS. Contractors and MEOs are not required to use the EID until the contract requires the use of TAS. (ANG must be fully compliant by FY11).

10.5.1.1. The EID will consist of nine characters (numbers/letters) of which the first four characters will be a unique World Wide Identification (WWID) code. ***NOTE:*** The intent is for the four characters of the WWID to identify the base (first and second character), unit (third character), and shop (fourth character) in order to leave the remaining five characters available for tool/CTK/equipment numbering.

10.5.1.1.1. The first two letters of the WWID in the EID are based on the wing's/unit's personnel assignment system (PAS) base code. Multiple wings (or equivalent) at the same base (i.e., ANG, AFRC, and active duty) must have different WWID codes. When needed, request additional "base" codes from HQ SSG/ILM, Gunter Annex, Maxwell AFB, AL.

10.5.1.1.2. The third and fourth characters designate the unit or shop by using unique/distinguishable characters. To ensure tool rooms have unique identifiers, wings (or equivalent) must ensure other units within the same wing or PAS code do not duplicate the first 4 characters of the EID.

10.5.1.2. The unit establishes the remaining five characters (any combination of numbers/letters) for CTKs, tools, and dispatchable equipment identification.

10.5.1.3. Units must place the 9-digit EID on all CTKs, tools not assigned to a box, and dispatchable equipment that is of sufficient size. The 9-digit EID must be placed on the outside of dispatchable CTKs. Tools located inside the tool box may be marked with less than 9-digits but must contain the 4-digit WWID and identifying character(s) that ties the tool back to the CTK. For example, tools inside an assigned dispatchable CTK "U6JG00001" may be marked "U6JG1." ***NOTE:*** Dispatchable equipment is defined as items that can be checked out from a support section/tool room/work center to perform on-/off-equipment maintenance within or outside the work center. Units may affix non-metallic bar code labels on tools to prevent re-etching as long as the use of the tool and its work environment does not normally result in excessive damage to the label making it unreadable. Tools will be marked with the most current EID. All previous CTK identifiers will either be removed or marked out (this does not include PMEL markings.

10.5.1.3.1. Small tools or items that cannot be marked as described above (such as drill bits, allen wrench sets, apexes, etc.) are to be maintained in a container marked with the WWID and an identifying character(s) that ties the tool back to the CTK along with the number of tools contained. The container is counted as one of the items.

10.5.1.4. MXG/CCs may require use of the EID and AFTO Form 65, *TMDE Bar Code Label, Aluminum Stock,*Form 66, *TMDE Bar Code Label, Polyester Stock,* for TMDE routinely (i.e., once per week) dispatched from a workcenter or use of the AFTO Form 65/66 alone. For items that physically or mechanically check tolerances that require calibration, do not etch, or stamp in any manner that will affect calibration or the ability to calibrate. If marking is in question, the owning workcenter shall consult PMEL.

10.5.2. Permanently mark (by etching or other means) grease guns, dispensing cans, spray bottles, pump oilers, and similar containers with the type of grease, fluid, or other liquids and military specification (MILSPEC) of the contents. If no MILSPEC exists, mark the item with the manufacturer's name, part number/NSN from the applicable MSDS. Keep hoses and

fittings separate for each type of grease. ***NOTE:*** If containers are used to hold or apply substances classified as hazardous materials, ensure labeling requirements of AFI 90-821, *Hazard Communication*, and local directives are accomplished.

10.5.3. Fiberglass handled hammers are etched on the metal head only (not on handle) in a non-impact area.

10.5.4. CTKs, tools, and dispatchable equipment that may possess a unique serial/tracking number must be marked with an EID number. If the item cannot be marked, etched, or stamped, annotate the additional designator on the CTK contents list. TMDE will be marked with an EID and/or AFTO Form 65 bar code number for tracking purposes in TAS.

10.5.5. Items that are assembled and are not intended to be disassembled during use, require only one mark/etch/stamp and one entry in the MIL (e.g., scribes, flashlights, grease guns).

10.5.6. Remove the EID from unserviceable tools and tools removed from the CTK, and update the MIL accordingly with the exception of warranty tools where removal of EID would void the tool warranty. Procedures to tag/segregate unserviceable warranty tools will be addressed IAW **paragraph 10.2.1.3**.

10.6. Locally Manufactured, Developed, or Modified Tools and Equipment. All locally manufactured, developed, or modified tools and equipment must be approved by the MXG/CC or their designated representative. This procedure does not apply to local manufacture, modification or design of tools authorized in specific technical data. QA coordinates on all requests for approval and use of locally designed tools or equipment. Users will review items and requirements biennially (every two years) for applicability and current configuration. See **Chapter 8** of this instruction for additional guidance. ***NOTE:*** Weapons loading, maintenance and armament systems flight locally designed equipment must be coordinated through the WWM. Additionally, all locally manufactured equipment used during nuclear weapons maintenance operations must be approved by the AFNWC/LG prior to use.

10.7. Tool Room Operations and Security. Limit tool issue sections to no more than one per work center. Establish procedures to ensure custodial control. Set up tool rooms to ensure accountability. Process reports for tools that are lost, damaged, or destroyed, due to neglect IAW AFMAN 23-220, *Reports of Survey for Air Force Property*.

10.7.1. The tool room must be capable of being locked and afford protective measures such as monitoring, 24-hour coverage, or controlled key access. When all CTKs are not capable of being secured in the tool room, the section NCOIC will design a process to prevent the unauthorized use or access to tools and equipment. Due to space and facility limitations, it may not be possible to store oversized tool kits in the tool room.

10.7.1.1. Tool kit locks will be used to provide a physical barrier to opening the container lid, drawer or door and prevent the unauthorized removal of tools. Locks are not required on tools and equipment that are stored within secured tool rooms or work centers.

10.7.1.2. Dispatchable tools, equipment, and CTKs are locked and/or secured when left unattended. Tools and equipment are never secured to the exterior of an aircraft. Unattended tool kits located within the controlled area are required to be locked, but do not need to be secured to another object.

10.7.1.3. Modifications to tool containers are authorized unless modification voids the manufacturer's warranty.

10.7.1.4. Tools will not be issued individually from dispatchable CTKs.

10.8. Lost Item/Tool Procedures.

10.8.1. Supervisors ensure all assigned personnel are familiar with lost tool procedures. If an item/tool or a portion of a broken tool is discovered missing, the following procedures apply:

10.8.1.1. The person identifying the missing item/tool will search the immediate work area for the item/tool. If not found, after completing an initial search the individual will notify the expediter/production supervisor or equivalent.

10.8.1.2. Place a Red X in the aircraft/equipment/weapon/weapon system forms of all affected aircraft, equipment, or weapon/weapon systems with a description of the tool and a specific, last known, location of the tool.

10.8.1.3. Expediter/production supervisor or equivalent will immediately notify the FLT CC/Chief, support section, MOC, and QA.

10.8.1.4. Initiate a thorough search for the tool.

10.8.1.5. After a thorough search is completed and the tool is not found, the person issued the item/tool will initiate a lost tool report.

10.8.1.6. If at any time during the investigation the item/tool is found and retrieved, notify the FLT CC/Chief, support section, MOC, QA, expediter, production supervisor or equivalent, and the owning work center.

10.8.1.7. If not found, the MOC will notify the MXG/CC of the missing item/tool.

10.8.1.8. If the item is not located, Operations Officer/MX SUPT shall determine when the search may be discontinued.

10.8.1.8.1. Limit authorization to clear Red X's when a tool/item cannot be located to no lower than Operations Officer/MX SUPT.

10.8.1.9. When it is suspected that the item/tool has fallen into an inaccessible or unobservable area, perform a NDI or use borescope equipment to locate the lost tool.

10.8.1.10. If at any time during the investigation the item/tool is found, but is inaccessible, notify the FLT CC/Chief, support section, MOC, QA, expediter, production supervisor or equivalent, and the owning work center.

10.8.1.10.1. Operations Officer/MX SUPT may explore other possible actions to include having the unit or a DFT disassemble the end item to remove the item/tool.

10.9. General Program Guidelines.

10.9.1. The first line supervisor will designate and document in writing TK Custodians to manage and control TKs. TK custodians are responsible for tool, HAZMAT, and consumable asset (e.g., assets with ERRC XB3, XD2 and XF3) accountability and control within their respective areas.

10.9.2. First line supervisors and section NCOICs (or their equivalents) determine the type, size, and number of TKs required for their work centers and approve the tool kit custodial receipt listing (TKCRL)/supplemental listing.

10.9.3. Design TKs to provide a quick inventory and accountability of tools. Develop a simple inventory method, a "show" (e.g., a shadow of the tool) and "know" (knowledge of tool or kit location) concept. Clearly mark all TKs and tools with the owning organization. Develop local procedures to determine which tools are checked out and who has them. Inspect all tools periodically for serviceability according to T.O 32-1-101, *Maintenance & Care of Hand Tools*.

10.9.4. A TKCRL/supplemental listing is developed for each type of TKs or equipment kit. A copy of the TKCRL/supplemental listing will be kept in the tool and equipment storage facility at all times for inventory purposes. The TK custodian has the authority to interchange "like" items.

10.9.5. Contents are identified by drawer/section indicating the total number and type of items in each drawer/section of the TK.

10.9.6. A TKCRL is required for each tool kit or series of identical kits and filed by the TK custodian in the TKCRL file (may be automated.) The TKCRL remains valid until contents change (MILs do not require replacement solely to update signature.)

10.9.7. Document removed/broken TK items.

10.9.8. Arrange TK contents for ease of inventory. TK contents will be standardized to the maximum extent possible within functional elements of a group or squadron that have similar missions.

10.9.9. Each tool, item of equipment, or consumable contained in a TK has an assigned location identified either by inlay cuts in the shape of the item, shadowed layout, label, or silhouette. No more than one item is stored in a cutout, shadow, or silhouette except for tools issued in sets such as drill bits, allen wrenches, apexes, or paired items (e.g., gloves, booties.)

10.9.10. Consumables may be placed in TKs. If so, they are identified on the KCRL/supplemental listing as consumables. Examples of consumables include, safety wire, adhesive, wire bundle lacing, solder, etc. Do not include common hardware items such as bolts, nuts, and (or) screws unless they are required as tools.

10.9.11. Equipment and accessories that do not present a FOD potential and are not dispatched from a PSC, work center, support section, or tool room, need not be included in a TK; however, this equipment must have designated storage locations established.

10.9.12. Establish designated locations for test equipment and common accessories (e.g., waveguides, attenuators, fittings, cables, adapters,) that are not part of a TK designated locations may be work areas or stations. (e.g., TMDE, avionics flights, propulsion flight)

10.9.13. Industrial shop machinery accessories/attachments (e.g., blades, arbors, chucks, gears) need not be controlled as tools, however, these items will be maintained in designated storage locations for accountability. As a minimum, storage cabinets/drawers will be labeled to identify the contents.

10.9.14. Tools/expendable items used for titanium engine blade blending will be kept in a special purpose kit separate from other tools. In addition to normal TK identification these kits will be marked "Controlled Items" "For Titanium Engine Blade Blending Only."

10.9.15. Flashlights, lanterns, portable lighting devices and light sources will conform to the requirements of TO 1-1-3 and AFMAN 91-201. ***NOTE:*** Weapon system and equipment TOs may dictate additional restrictions.

10.9.16. For deployment purposes ensure equipment, tools, and HAZMAT items are properly identified, prepared, and documented IAW AFI 10-403.

10.10. Tool Accountability, Control, and Inventory. First level supervisors and section chiefs, through TK custodians, are responsible for tool and equipment accountability and control (knowing where tools are and who has responsibility for them.) When a person signs for a tool or piece of equipment, they are accountable for the item until it is returned to the tool room and accountability transfers back to the TK custodian (through a representative or tool room employee.)

10.10.1. Air Logistics Centers must continue to implement the Facilities and Equipment Maintenance System (FEMS) tool module as the depot standard.

10.10.1.1. Units will use FEMS to:

10.10.1.1.1. Track, issue, and receipt for all assigned tools, equipment, tool kits, HAZMAT items, TOs.

10.10.1.1.2. Track authorizations/restrictions for special tools/equipment (by individual.)

10.10.1.1.3. Track inspections required by this instruction.

10.10.1.1.4. Track spare, lost, and damaged (removed) tools.

10.10.1.1.5. Develop and manage tool/equipment inventories.

10.10.1.1.6. Develop and manage deployment kits (import/export).

10.10.1.2. If an automated system is not available (such as at a deployed location), units may use a chit system, AF Form 1297 or, a MAJCOM or locally approved form for accountability and control of TKs, equipment, and tools. When using a chit system, chits are controlled as tools to include a beginning and end of shift inventory. Do not issue chits directly to individuals or remove them from tool rooms. Chit control boards are located in secure locations.

10.10.2. Account for all TKs, tools, and dispatchable equipment at the beginning and end of each shift. Document shift inventories. TKs present during PSC/tool room shift inventories do not need to be opened for inventory.

10.10.2.1. Perform a visual inventory of all TKs when issued for use, at the completion of job or tasks, and when returned to the tool storage facility. Accomplish a TK inventory prior to operation of any aircraft or equipment when maintenance actions were performed (engine run, landing gear retraction, flight control operational checks, etc.)

10.10.2.2. At least annually or when the TK custodian changes, conduct a comprehensive inventory of all tools, non-CA/CRL equipment, and TK. The purpose of

this inventory is to perform an extensive inspection of all tools and non-CA/CRL equipment, to include condition, identification markings, and accuracy of the TKCRL/supplemental listing. Inspect all tools for serviceability according to TO 32-1-101. CTK custodians document these inventories and maintain the most current inventory documentation on file.

10.11. Locally Manufactured or Developed Tools and Equipment. The local supplement must address procedures for approval and control of locally designed tools or equipment that carry loads, change torque or presents potential to damage government resources. The Planning/Engineering Office will have approval authority for locally manufactured, modified, developed or special end item unique tools and equipment not published in technical data. Requests for approval of locally manufactured or developed/modified tools must include a description of the item and its intended use, a list of materials required, cost, and procedures for manufacturing the tool. If possible, include an example, photo or drawing. The Engineering office will keep copies of drawings, photos and documentation of all approved local manufactured or developed/modified tools and equipment. The approvals will be reviewed every 2 years and the review will be annotated. ***NOTE:*** This procedure does not apply to local manufacture, modification or design of tools authorized in specific technical data.

10.12. Adopted and Prescribed Forms.

10.12.1. Adopted Forms.

AF Form 1297, *Temporary Issue Receipt*

AF Form 1996, *Adjusted Stock Level*

AF Form 2419, *Routing and Review of Quality Control Report*

AF Form 2427, *Lock and Key Control Register*

AF Form 2586, *Unescorted Entry Authorization*

AFTO Form 22, *Technical Manual Change Recommendation and Reply*

AF Form 55, *Employee Safety and Health Record*

AFTO Form 65, *TMDE Bar Code Label, Aluminum Stock*

AFTO Form 66, *TMDE Bar Code Label, Polyester Stock*

AFTO Form 350, *Item Repairable Processing Tag*

AF Form 2432, *Key Issue Log*

AF Form 2435, *Load Training and Certification Document*

AFTO Form 375, *Selected Support Equipment Repair Cost Estimate*

10.12.2. Prescribed Forms.

None

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Attachment 1

GLOSSARY OF REFERENCES AND SUPPORTING INFORMATION

References

DoDI 3000.4, *DoD Munitions Requirements Process (DoD MRP)*

DoD 5100.76-M, *Physical Security of Sensitive Conventional Arms, Ammunition, and Explosives*

AFI 10-401, *Air Force Operations Planning And Execution* AFI 10-601, *Capabilities Based Requirements Development* AFMAN 10-401 Vol 2, *Planning Formats and Guidance*

AFI 10-403, *Deployment Planning and Execution*

AFI 20-110, Nuclear Weapons Related Materiel Management

AFI 21-101, *Aircraft and Equipment Maintenance Management*

AFI 21-118, *Improving Air and Space Equipment Reliability and Maintainability*

AFI 21-201, *Conventional Munitions Maintenance Management*

AFI 21-202, *ICBM and Cruise Missile Maintenance Management*

AFI 21-203, *Nuclear Accountability Procedures*

AFI 21-204, *Nuclear Weapons Maintenance Procedures*

AFI 21-205, *Command Disable System (CDS) (S)*

AFI 21-210, *Nuclear Weapon Related Visits to Air Force Organizations*

AFI 21-211 (I), *Emergency Munitions Support for Joint Operations*

AFI 23-111, *Management of Government Property in Possession of the Air Force*

AFI 25-101, *War Reserve Materiel (WRM) Program Guidance and Procedures*

AFI 32-1021, *Planning and Programming Military Construction (MILCON) Projects*

AFI 32-1065, *Grounding Systems*

AFI 32-7042, *Waste Management*

AFI 33-360, *Publications and Forms Management*

AFI 36-2101, *Classifying Military Personnel (Officer and Enlisted)*

AFI 36-2201, *Training Development, Delivery and Evaluation*

AFI 36-3802, *Personnel Readiness Operations*

AFI 38-101, *Air Force Organization*

AFI 63-101, *Acquisition and Sustainment Life Cycle Management*

AFI 90-821, *Hazard Communication*

AFI 90-901, *Operational Risk Management*

AFI 91-101, *Air Force Nuclear Weapons Surety*

AFI 91-114, *Safety Rules for the Intercontinental Ballistic Missile Systems*

AFI 91-202, *USAF Mishap Prevention Program*

AFMAN 33-363, *Management of Records*

AFMAN 48-155, *Occupational and Environmental Health Exposure Controls*

AFMAN 91-221, *Weapon Safety Investigations and Reports*

AFMAN 91-201, *Explosive Safety Standards*

AFPAM 90-902, *Operational Risk Management (ORM) Guidelines and Tools*

AFPD 21-2, *Munitions*

T. O. 00-5-1, *Air Force Technical Order System*

T.O. 00-20-1, *Aerospace Equipment Maintenance Inspection, Documentation, Policies, And Procedures*

T.O. 00-25-107, *Maintenance Assistance*

T.O. 00-25-108, *Communications-Electronics (C-E) Depot Support*

T.O. 35-1-30, *US Air Force Serial Number Registration System for Selected Support Equipment*

Abbreviations and Acronyms

AAAL—Access, Approval and Authority List

ACC—Air Combat Command

AETC—Air Education and Training Command

AFCESA—Air Force Civil Engineering Support Agency

AFCFM—Air Force Career Field Managers

AFCOMAC—Air Force Combat Ammunition Center

AFEMS—Air Force Equipment Management System

AFGSC—Air Force Global Strike Command

AFSOC—Air Force Special Operations Command

AFMC—Air Force Materiel Command

AFI—Air Force Instruction

AFMEB—Air Force Munitions Executive Board

AFMMAG—Air Force Maintenance and Munitions Advisory Group

AFNWC—Air Force Nuclear Weapons Center

AFPD—Air Force Policy Directive

AFRC—Air Force Reserve command

AFRIMS—Air Force Records Information Management System

AFSC—Air Force Safety Center

AFTO—Air Force Technical Order

AGE—Aerospace Ground Equipment

AGR—Active Guard Reserve

AIT—Automatic Identification Technology

ALC—Air Logistics Centers

AMC—Air Mobility Command

AME—Alternate Mission Equipment

AMMOS—Advanced Maintenance and Munitions Officer School

ANG—Air National Guard

AOC—Air Operations Center

ARC—Air Reserve Component

ARG—Accident Response Group

AS—Allowance Standards

AWM—Awaiting Maintenance

AWP—Awaiting Parts

C2—Command and Control

CAF—Combat Air Forces

CALCM—Conventional Air Launched Cruise Missile

CAM—Centralized Asset Management

CAMS—Core Automated Maintenance System

CAS—Combat Ammunition System

CCDR—Combatant Commander

CDC—Career Development Courses

CDS—Command disable System

CE—Civil Engineerign

CENTAF—Central Air Force

CFETP—Career Field Education and Training Plans

CM—Cruise Missile

CMS—Calibration Maintenance Summary

CMT—Combat Munitions Training

COCOM—Combatant Command (command authority)

CPD—Capability Production Document

CRD—Complete Round Dictionary

CTS—Course Training Standard

DDESB—DoD Explosives Safety Board

DDL—Delayed Discrepancy Listing

DIAMONDS—Defense Integration and Management of Nuclear Data Services

DNSI—Defense Nuclear Surety Inspection

DOC—Designated Operational Capability

DoDAAC—DoD Activity Address Code

DoDI—Department of defense Instruction

DOE—Department of Energy

DOP—Dropped Object Prevention

DR—Deficiency Report

DS—Dull Sword

DT—Developmental Team

DTRA—Defense Threat Reduction Agency

EAC—Emergency Action Checklist

EAF—Emergency Action File

EDM—Emergency Destruction of Material

EMS—Equipment Maintenance Squadron

EPE—Evaluator Proficiency Evaluation

ERS—Equipment Requirement System

ESTS—Electronics Systems Test Set

EWO—Emergency War Order

FAM—Functional Area Manager

FMS—Foreign Military Sales

FOC—Foreign Object Damage

FOUO—For Official Use Only

GACP—Global Ammunition Control Point

GAP—Global Asset Positioning

GSU—Geographically Separated Units

ICBM—Intercontinental Ballistic Missile

IGESP—In Garrison Expeditionary Site Plan

ILRP—ICBM Long Range Planning

IMDS—Integrated Maintenance Data System

IPI—In-Process Inspection

IT—Information Technology

ITO—Integrated Tasking Order

JCS—Joint Chiefs of Staff

JCN—Job Control Number

JFACC—Joint Force Air Component Commander

JFCC—Joint Functional Component Command

JNACC—Joint Nuclear Accident Coordinating Center

JNWPS—Joint Nuclear Weapons Publication System

JSCP—Joint Strategic Capabilities Plan

LANL—Los Alamos National Laboratory

LCAP—Logistics Compliance Assessment Program

LF—Launch Facilities

LIL—Location Inventory Listing

LLA/PLA—Launcher Loader Adapter/Pylon Loader Adapter

LLNL—Lawrence Livermore National Laboratory

LMR—land mobile radio

LPM—Lead Program Manager

LPO—Lead Project Officer

LPS—Lightning Protection System

MAF—Missile Alert Facilities

MAF—Mobility Air Forces

MAJCOM—Major Command

MAPS—Mechanical and Pneudraulics Section

MASO—Munitions Accountable Systems Officer

MCL—Maintenance Capability Letter

MDC—Maintenance Data Collection

MEP—Munitions Employment Plan

MILCON—Military Construction

MISCAP—Mission capability

MITWG—Maintenance Information Technology Working Group

MMHE—Munitions Material Handling Equipment

MMOC—Missile Maintenance Operations Center

MMXS—Missile Maintenance Squadron

MNCL—Master Nuclear Certification List

MOA—Memorandum of Agreement

MOS—Maintenance Operations Squadron

MOU—Memorandum of Understanding

MRRT—Munitions Rapid Response Team

MSCL—Mobility Standard Configuration Load

MSDS—Material Safety Data Sheet

MTL—Master Task Listing

MTS—Missile Test Set

MUNS—Munitions Squadron

MUNSS—Munitions Support Squadron

MXS— Maintenance Squadron

NAF—Numbered Air Force

NARS—Nuclear Accountability and Reporting

NATO—North Atlantic Treaty Organization

NCE—Nuclear Certified Equipment

NEW—Net Explosive Weight

NL—National Laboratories

NNSA—National Nuclear Security Administration

NWRM—Nuclear Weapons Related Material

OJT—On-the-Job Training

OO—ALC—Ogden Air Logistics Center

OPAF—Other Procurement Air Force

OPCON—Operational Control

ORM—Operational Risk Management

OSSG—Headquarters Operations and Sustainment Group

OST—Office of Secure Transport

OTE—Organize, Train and Equip

OTI—One Time Inspections

PAAF—Procurement of Ammunition Air Force

PACAF—Pacific Air Forces

PEM—Program Element Monitor

PIWG—Product Improvement Working Group

POM—Program Objective Memorandum

PPE—Personnel Proficiency Evaluation

PQDR—Product Quality Deficiency Report

QA—Quality Assurance

QAP—Quality Assurance Personnel

RDS—Records Disposition System

RDT&E—Research, Development, Test and Evaluation

RPIE—Real Property Installed Equipment

SAAR—Supplemental Allocation Authorization Request

SBSS—Standard Base Supply System

SCL—Standard Configuration Loads

SCR—Special Certification Roster

SCR—Status Change Report

SDI—Special Duty Identifier

SDT—Second Destination Transportation

SECDEF—Secretary of Defense

SEV—Stockpile Emergency Verification

SGT—Safeguard Transporters

SMCA—Single Manager for Conventional Munitions

SMI—Storage Monitoring Inspection

SMMC—Senior Munitions Maintenance Managers Conference

SNL—Sandia National Laboratory

SOF—Special Operations Forces

SPD—System Program Director

SRAN—Stock Record Account Number

SST—Safe Secure Trailer

TACP—Theater Ammunition Control Point

TCTO—Time Compliance Technical Orders

TFP—Tactical Ferry Payload

TMCP—Tactical Missile Control Point

TMDE—Test, Measurement and Diagnostic Equipment

TMRS—Tactical Missile Records System

T.O.—Technical Order

TODO—Technical Order Distribution Office

TPE—Trainer Proficiency Evaluation

TTML—Test/Training Munitions Listing

U&TW—Utilization and Training Workshops

UCML—Unit Committed Munitions Listing

UMD—Unit Manpower Document

UMPR—Unit Manpower Personnel Record

UND—Urgency of Need Designator

UPMR—Unit Personnel Management Roster

UR—Unsatisfactory Report

USAFE—United States Air Forces Europe

USAL—Unit Spares Authorization Listing

UTC—Unit Type Code

VACE—Verification and Checkout Equipment

WIRS—Weapons Information Reports

WR—ALC—Warner Robins Air Logistics Center

WRM—War Reserve Munitions

WRSA—War Reserve Stock for Allies

WUC—Work Unit Code

WWSMMC—World Wide Senior Munitions Manager's Conference

Terms

Explosive ordnance—All munitions containing explosives, nuclear fission or fusion materials, and biological and chemical agents. This includes bombs and warheads; guided and ballistic missiles; artillery, mortar, rocket, and small arms ammunition; all mines, torpedoes, and depth charges; demolition charges; pyrotechnics; clusters and dispensers; cartridge and propellant actuated devices; electro-explosive devices; clandestine and improvised explosive devices; and all similar or related items or components explosive in nature.

Munitions—Munitions are complete devices charged with explosives, propellants, pyrotechnics, initiating composition; nuclear fission or fusion materials for use as a military weapon in military operations, including demolitions. This includes bombs and warheads; guided and ballistic missiles; artillery, mortar, rockets, and ammunition; all mines, torpedoes, and depth charges; demolition charges; pyrotechnics; smoke; flares; clusters and dispensers; cartridge and propellant actuated devices; electro-explosive devices; clandestine and improvised explosive devices. When suitably modified, munitions can include items for training, ceremonial, or non-operational purposes. Throughout this AFI, the term "munitions" refers to this definition.

Attachment 2

MAJCOM QA TREND ANALYSIS AND REPORTING

USE THE FOLLOWING CAUSE CODES TO REPORT TRENDING CATEGORY ROOT CAUSE:

A. Oversight:

A.1 – Inadequate Supervision:

A1.1 – Experience: Error committed despite adequate training & guidance

A1.2 – Training: Insufficient supervisor training

A1.3 – Lack of attention-to-detail

A1.4 – Supervisor aware, but delayed action

A1.5 – Supervisor aware, but ignored established guidance

A.2 – Military Equal Opportunity (MEO) Environment

A.3 – Funding Shortage

A3.1 – Unit misprioritized funding

A3.2 – Parent unit provided inadequate funding

A3.3 – Cause of funding shortage unknown

B. Personnel:

B.1 – Training Shortfall:

B1.1 – Training course/guidance not available or inadequate

B1.2 – On-the-Job training inadequate

B.2 – Inexperienced / Unqualified Personnel

B.3 – Lack of Attention-to-Detail

B.4 – Aware, but Ignored Established Procedures or Guidance

C. Manning:

C.1 – Manning Inadequate to Accomplish Task or Mission Needs:

C1.1 – Insufficient number of assigned personnel

C1.2 – Insufficient personnel with appropriate PRP-certification or security clearance

C1.3 – Insufficient personnel due to TDY/deployment

D. Guidance:

D.1 – Complexity of Guidance Prevented/Precluded Task Accomplishment

D.2 – No/Inadequate Guidance Prevented/Precluded Task Accomplishment

D.3 – Incorrect Guidance Prevented/Precluded Task Accomplishment

D.4 – Outdated/Non-current Guidance Prevented/Precluded Task Accomplishment

D.5 – Conflicting Guidance Prevented/Precluded Task Accomplishment

E. Equipment/Tools:

E.1 – Equipment Reliability:

E1.1 – Attributed to equipment defect or design flaw

E1.2 – Attributed to inadequate equipment maintenance

E.2 – Inadequate / Unavailable Support:

E2.1 – Base-Level support

E2.2 – HHQ-Level support

E.3 – Accountability inadequate

F. Safety:

F.1 – Operations Not Conducted in a Safe/Efficient Manner and Error/Unintended Consequences Attributed to:

F1.1 – Perceptual Error

F1.2 – Slip in attention or distraction

F1.3 – Knowledge-based error

F1.4 – Training

F.2 – Violation/Deliberate Act with Intended Outcome

G. Other:

G – Explain in Clear Text